

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2565: Anonymous*

**2565-1** — Coming back from Portland, we drove up to Crown Point Observation, and I saw the Columbia River spread before me and I clutched my heart. You better clean up that garbage dump out there. I don't want that waste seeping into my river. It is my river too.

**2565-2** — But anyway, the cancer did come back on the scar tissue of the right breast. So I had 35 radiation treatments, where you are radiated until you are red, burned, bloody and blistered, and those people in Portland and Hood River had the gall and the arrogance to tell me that we should clean up Hanford — I agree 100 percent — and don't do anything about cancer until Hanford is cleaned up. So that is the suffer and die cult that wants to make this decision. They don't give a rats #\*\$! if you all suffer and die from cancer.

### *Response to Commentor No. 2565*

**2565-1:** DOE notes the commentor's concern regarding the existing cleanup mission at Hanford and the risk of contamination to the Columbia River. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this agreement. The missions described in Section 1.2 of Volume 1 would not impact ongoing Hanford cleanup activities. The stated missions delineated in the NI PEIS would not have an impact on the Columbia River. FFTF is located approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to the groundwater. Analyses presented in Chapter 4 of the NI PEIS (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4) indicate that there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of the existing Hanford facilities in support of the stated missions. Also, no water quality impacts would be expected as a result of permanent deactivation of FFTF (Section 4.4.1.2.4).

**2565-2:** DOE notes the commentor's views and testimony.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2569: Anonymous**

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**2569-1**—This is a letter to Colette Brown, DOE. “Dear Ms. Brown, as Washington’s oldest and largest statewide business organization, whose 3,700 members employ more than 600,000 people, we are writing this letter to express our continued support for the ongoing environmental review process initiated by the Department of Energy for the Fast Flux Test Facility on the Hanford Nuclear Reservation. We believe that the Department must continue the process leading to the bringing on-line of the FFTF for medical isotope research and treatment. It is obvious that there is a need for additional sources of medical isotopes for research and treatment. The benefits of these isotopes to the patients are numerous.

Clearly the Fast Flux Test Facility represents the lowest risk since it is an existing facility where the medical isotope activities have already been performed. It also appears that FFTF provides greater flexibility to meet the multiple missions identified in the EIS, whereas the other alternatives appear to be dedicated to a single purpose with limited growth potential.” It concludes with, “We hope the Department will proceed expeditiously with the environment review and we surely hope it will lead to the safe and efficient restart of the operation of the FFTF.”

**2569-2**—We have additional concerns which we believe should be surfaced in the ongoing environmental review process. With the very recent national energy electric shortages coupled with concerns about global warming, there is a need for additional nuclear energy-based research. Given the concerns about carbon monoxide emissions from fossil fuel generating facilities and the fact that existing non-fossil fuel, non-nuclear technologies and conservations are not able to fill the gap, research to find acceptable solutions to the issues facing nuclear power production is necessary. If we are to have sufficient electricity to power our computers, heat and cool our homes and operate our facilities, nuclear power must be explored as an option for the future. At the very least, this proven source of energy production should be reexamined.

**Response to Commentor No. 2569**

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**2569-1:** DOE notes the commentor’s support for Alternative 1, Restart FFTF.

**2569-2:** DOE notes the commentor’s support for civilian nuclear energy research.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2571: Anonymous*

**2571-1**—And just yesterday during a CBS 11:00 p.m. local news broadcast, a commentator stated no harm has been done by the fallout since the National Monument wildfire. Inhaling plutonium particles in Hanford dust is not harmless. At the same time an ABC commentator announced high levels of radiation equal to Hanford was detected at Sunnyside. Which one of them was telling the truth or where did they get their information? That is a problem for people like me. Hanford officials reported two employees who falsified FFTF records and were fired, which the officials insist is an isolated incident. Which US DOE official can successfully convince anyone that no other records are falsified. FFTF is old and deteriorated like a lot of facilities at Hanford. They just won't hold up. That is the fact of it. You can talk to any nuclear operator that has left Hanford, and they will tell you the same thing. Disease is sometimes a sophisticated substitute for force used by people intending to prevail. If anyone believes the US can't delegate some of the US DOE delegates accountability, then please allow me to put you in touch with many witnesses who can enlighten you and provide you with other falsified record. Certain populations as well as children are suffering with various respiratory and other medical problems since the Hanford wildfire destroyed over 191,000 acres of national monument. Beginning back to when the wind blows, I have to stay inside and wear a mask. I have an exhibit attached here. The fire turned just six minutes either way from my north Richland home.

### *Response to Commentor No. 2571*

**2571-1:** No radioactive materials were “released” in the Hanford wildfires of 2000. The DOE Richland Operations Office, the State of Washington Department of Health, and U.S. Environmental Protection Agency performed environmental monitoring on and around the Site to assess potential radiological impacts. The wildfire did not cause a release of radioactive materials from any Hanford facilities but did result in resuspension of radioactive materials which were already in the environment. The very low levels of radioactive materials that were resuspended were slightly above natural background levels and required several days of analysis to quantify. Information on this event has been made available to the public and can be accessed at <http://www.Hanford.gov/envmon/index.html>. This site also provides a link to information on the independent offsite air monitoring that was conducted by the U.S. Environmental Protection Agency. The FFTF reactor at Hanford was constructed and initiated operations in the mid- 1980s making it the DOE's newest reactor. It has no structural flaws that would prevent safe operations. The FFTF facility has a quality assurance program and a number of other management systems in place to identify deficiencies with safety-related work. These systems worked as discussed in the referenced case.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2591: Anonymous**

**2591-1**—You guys have heard a lot from me. I am not sure I have said a lot in the past meetings, but I do think there is a concern relative to the NERAC Committee and the Frost and Sullivan report for the demand, and I think that the Committee was accelerator biased. So somebody is quoting NERAC as the actual fact. I think there should be some other details looked at. And the rationale I came up with is that the demand — a demand that is left out of there is this is life threatening. And I think you have heard it a lot, Owen, that once it gets FDA approved, you go from maybe treating the rate of 100 per year in phase III and now all of a sudden, you may have 10,000 to 20,000 patients who want that particular treatment. And you look at areas like thermogenic. They took a little while to get going and once they said, well, this looks like a pretty good isotope, they went for four years in a row at 70 percent a year. Now the system needs to accommodate looking at a single isotope that may be required at a demand rate that goes sky high. And that infrastructure needs to look at how that can be done. Now Frost and Sullivan did include — I think it was the year 2005, they expected five FDA approvals on nuclear medicine isotopes, and they went — I think I got it right — 700 percent in one year. And they came back and I said, where did you get that? And he said, well, there is going to be five different isotopes being approved by FDA. That was his estimate. But I think the point is that needs to be looked at very closely. Plus, when you look at the demand, you've got to account for prevalent patients. There are patients out there that have been treated and a lot of these demand schedules are not included in there. If they would be included, what you would see is a high ramp up, a large peak while the prevalent patients are being treated along with the new patients that are added to the list every year, and then it comes down as you have treated the patients and they are better or they die of other causes. Then it will actually come down. So those types of peaks need to be included in the demand curve. It needs to be looked at. Maybe I was wrong when I did it. But when I did the curves for FFTF to just try to get some feel for when is it going to be economical, you had to include the prevalent patients to treat. Because if a guy is on the third treatment, as you see those are the only ones they get to treat in clinical trials anyway. So they need to be included in that demand rate. And the infrastructure out there needs to look at that.

**Response to Commentor No. 2591**

**2591-1:** DOE notes the commentor's views concerning the Frost and Sullivan report. DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. Currently, approximately 50 percent of DOE's isotope production capability is being used. Much of the remaining isotope production capability supports secondary missions, but cannot be effectively used due to the operating constraints associated with the facilities' primary missions (basic energy sciences or defense). DOE is currently meeting most of its short-term requirements. However, in the long-term (next 5 to 10 years) there will be a shortfall in available DOE capacity to meet demand. Should the isotope demand grow consistent with the Expert Panel Report, as it has recently, or if DOE's market share increases, there will be a need for expanded isotope production capacity in the short-term (less than 5 years).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2560: Nancy Aldrich,  
Mayor Pro-Temp, City of West Richland*

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**2560-1**—There is no doubt that West Richland would experience an economic boom if FFTF is restarted. But as a cancer survivor and a sufferer of rheumatoid arthritis, I want those medical isotopes available to not just me, but to the citizens of West Richland if we should need them at any point in our lives. On a lighter note, I have a 10-year-old son whose goal is to be an astronaut and to be part of a NASA mission to Mars. I would hate to have him be disappointed in those goals because the reason not to produce those isotopes were based on fear and not sound science. So, therefore, I and my community support the restart of FFTF.

*Response to Commentor No. 2560*

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**2560-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2612: Linda Alexander*

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**2612-1**—I'm not a scientist, but I worked with the scientists, and I do recall, just after FFTF radioisotopes were discontinued, there was a young intern that came over from Fred Hutchinson. He was going to personally escort a sample that he had been guaranteed was just as good as FFTF's. I watched this young scientist get really discouraged because we brought that in and we opened up the package. He had to run some tests, and he said oh, you know.

He said that the chemical toxicity was so high that the radionuclide would help the patient, but the chemicals would harm him. This is a scientist that said well, the chemical could be used on a lab rat, but not on a human. He was pretty discouraged.

It really had a big impact on me because I could tell that these people weren't doing this scientific. They really cared about how the radioisotopes made it easier for people to recover, and if they didn't receive them, that their chances were next to none.

*Response to Commentor No. 2612*

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**2612-1:** DOE notes the commentor's views and testimony.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Sid Altschuler*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 1476.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2590: Bob Anderson**  
**Benton County Democratic Central Committee**

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**2590-1**—What I am here tonight is to represent Democrats in Benton County. That was another one of the assertions that I had a problem with Mr. Pollet that he spoke for or that he made the statement that most Democrats oppose restart of FFTF. I know that is not the case in Benton County and Franklin County. I don't know how he is a spokesperson for the Democratic Party, but part of our burden is to basically put the facts out. And the facts in Benton County are that back in October of 1999, we passed a resolution in support of restarting the Fast Flux Test Facility. At the last public hearing, I submitted a copy of that. So I am not going to read that resolution again, but I have attached a copy to the written comment. And in April of this year, our Benton County Democratic Party also adopted a platform which states in part, "Cancer is the second leading cause of death in this country with 600,000 cancer victims dying annually. The American public cannot accept current, expensive and agonizing traditional treatments with their devastating side effects. Chemotherapy and radiation use a buckshot approach which frequently causes nausea, hair loss, bone weakness, lymphedema, burned and blistering skin, chronic coughing and increased susceptibility to shingles. These old-fashioned treatments are effective for 40 percent of the patients and cost \$105 billion annually. It is unconscionable not to devote all efforts to starting production of medical isotopes at the FFTF.

In summary, the Nuclear Infrastructure Draft Programmatic Environmental Impact Statement released on July 21 of this year has reinforced our belief for the need to restart FFTF.

**Response to Commentor No. 2590**

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**2590-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Walt Apley*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 405.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Dale Bartholomew***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 412.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Robert Beach*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 268.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2563: Leo Bowman,  
Benton County Commissioner**

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**2563-1**—As Chairman Pro-temp of the Board of Benton County Commissioners, I want to restate the County's longstanding and unwavering support for the restart and continued operation of the FFTF. The County has passed several resolutions in recent years supporting the study, the operations and the restart of the Fast Flux Test Facility.

I would like to emphasize four points in your draft EIS. One of them is when you consider what it costs to build the FFTF, when you consider what it would cost to build a similar facility today, what it would cost to decommission the FFTF, and what it would cost to leave the facility in limbo, we believe that anything other than the restart and operation of the FFTF for the long term would be an abuse of taxpayer dollars.

Two, as in your EIS, it explains no other Department of Energy facility, existing or proposed, have the capabilities of producing all three missions for the Department of Energy — the production of plutonium-238, the research and development of nuclear fields, and the production of nuclear and industrial isotopes.

Three, currently the United States imports over 90 percent of all the medical isotopes used to save the lives of citizens in Benton County and the United States, and ironically we purchase all of our plutonium-238 supplies from Russia.

And four, contrary to the fears of under-informed detractors, renewed operation of the FFTF would not generate any new high level waste, would not support any military missions or weapons programs, and would not take any money from clean-up. Those budgets are separate. We believe that when the Department of Energy carefully and sensibly weighs its alternatives, the restart of the FFTF would be the obvious choice in meeting the nation's isotope research, development and production objectives for the next century.

**Response to Commentor No. 2563**

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**2563-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2568: Mark Beck**  
**Citizens for a Clean Eastern Washington**

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**2568-1**—What I would like to see included in the PEIS is more explicit statement of the environmental impacts associated with restarting the FFTF.

Furthermore, there are no statements about the environmental impacts of new accelerators or a new reactor. That is completely ignored in the environmental impact statement. If this is an environmental impact statement, those impacts have to be included in it.

**2568-2**—I have looked at the cost statement that was made available on Friday, specifically the cost of the waste streams. The storage treatment of waste are not included anywhere in that cost statement. Those have to be included in the PEIS. And those costs should be calculated for — not just for the 35 years of the mission, but have to be calculated for the entire time over which these wastes are threatening to the human life.

Let me just point out some of the costs. Some people have mentioned here that it must be cheaper to run the FFTF since it is already built. Well, I ran some of the numbers here. Considering \$314 million to start the thing up, at \$60 million a year for 35 years, that is \$2.4 billion over the course of 35 years. Let's consider what I call alternative 6, which would consider buying the plutonium-238 from Russia. That costs \$10 million a year. Do that for 35 years. Build a low energy accelerator which will produce the medical isotopes and the research isotopes. It costs \$35 million to build this accelerator. That is in the cost statement that was posted on the Web. \$35 million for a low energy accelerator. Not the billion dollars for the large accelerator to build a Pu-238. This accelerator won't make Pu-238. But if you buy that from Russia, you don't need to build a billion dollar accelerator. You can build a \$35 million accelerator. Okay? It costs \$4.5 million a year to operate that thing. Total that all up, accelerator and buying Pu-238 from Russia, that is \$500 million over 35 years. That is one-fifth the cost of operating the FFTF.

**2568-3**—You must include the findings of your blue ribbon task force here, the Nuclear Energy Research Advisory Committee. It has been mentioned a few times here. I won't read the quotes. They have already been stated several times. I realize that this specific document refers to research documents and what you have said here now is that the FFTF is actually being considered more for therapeutic and diagnostic treatments. That sounds like commercialization. But the EIS does not include anything about commercialization. If commercialization of the FFTF is what you intend, that has to be considered in the EIS.

**2568-4**—Further, you must include recent developments with NASA with regards to the Sterling engine. The PEIS assumes 5 kilograms of Pu-238 a year. While that may be true in the near future, in the long term, especially over a 35-year mission, that number is going to go down. That means all of the alternatives have to be reconsidered with consideration of lower amounts of Pu-238. That means for

### **Response to Commentor No. 2568**

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**2568-1:** The environmental impacts associated with operation of the FFTF during normal operations and from postulated accidents are explicitly presented and discussed in Section 4.3 of the draft NI PEIS. All impacts to human health and insults to environmental media including air, water, and land are shown to be small. No fatalities would be expected from the 35-year operating period of the FFTF. Any discharges would be in accordance with applicable permit and regulatory requirements and the impacts on air and water quality would be small. The potential impacts to the Hanford area and transportation corridors to and from Hanford associated with FFTF operations are also shown to be small. The environmental impacts associated with the construction and operation of new accelerators and of a new reactor are presented and discussed in Sections 4.5 and 4.6, respectively, of the NI PEIS. As indicated in Sections 2.5.4 and 2.5.5, site selection for Alternatives 3 and 4 is not evaluated as part of this NI PEIS. In the event one of these alternatives were selected for subsequent consideration, follow-on NEPA assessments would evaluate potential locations for these new facilities.

**2568-2:** As noted by the commentor, waste management costs were not presented in the Cost Report. Again, Neither NEPA nor the CEQ regulations for implementing NEPA require the inclusion of a cost analysis, including for waste generation. Wastes would be generated by all alternatives and all sites including for the implementation of Alternative 1, Restart FFTF, at Hanford, which makes these costs not a particularly useful discriminator among the alternatives considered. Also, the ultimate disposition of some of these wastes in terms of acceptable waste form and disposal site (onsite or off-site commercial) have yet to be determined. This adds an additional uncertainty to any attempt to quantify waste costs, thus, making any estimates highly presumptive and speculative at best. The commentor's proposed alternative consists of elements from the No Action Alternative and Alternative 3, Construct New Accelerator(s). Other combinations of alternative elements could also be selected to meet the DOE mission requirements to some level. As indicated in the NI PEIS, the Record of Decision can select elements from one or more alternatives evaluated in the NI PEIS. The proposed low-energy accelerator, an element of Alternative 3, can produce a select set of medical isotopes. The FFTF can produce a diverse set of medical and industrial isotopes plus meet the requirements of the civilian nuclear energy research and development mission. The commentor's proposed alternative does not meet any of the civilian nuclear energy research and development missions requirements. DOE considers all three missions of equal importance.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2568: Mark Beck (Cont'd)**  
***Citizens for a Clean Eastern Washington***

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smaller — for new reactor design, that would mean a smaller new reactor. For accelerator designs, that would mean smaller accelerators. That would mean for cheaper alternatives for numbers of the others.

**2568-5**—In my testimony at the scoping hearing, I stated that all possible waste streams must be considered, including target fabrication and transportation, field fabrication and transportation, spent fuel from the reactor, unused isotopes themselves, and all solid and liquid wastes in processing targets and extracting isotopes. There are no detailed statements in the environmental impact statement of exactly where these wastes are going to be disposed of, and that has to be included in the statement.

**2568-6**—If you must decide that you have a reactor, although my organization does not explicitly support the use of a reactor, we would state that you should consider alternative three a much more attractive alternative to alternative one.

**2568-7**—Building a new reactor costs the same amount to build as it would to restart the FFTF, [and] would have far lower operating costs...

**2568-8**—[New reactor] would have a far smaller amount of waste production [than FFTF].

**Response to Commentor No. 2568**

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**2568-3:** The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE's production and sale of radioisotopes fall into two categories "commercial" and "research" and both types of isotope production are considered under the proposed actions. Commercial radioisotopes are those that are produced in large, bulk quantities and sold to pharmaceutical companies or distributors, or to equipment or sealed source manufacturers. Examples of commercial radioisotopes produced by DOE include strontium-82 and germanium-68 for medical applications, and iridium-192 and californium-252 for industrial applications. DOE only produces commercial isotopes when there is no U.S. private sector capability or when foreign sources do not have the capacity to meet U.S. needs reliably. In contrast, research radioisotopes are typically produced and sold in small quantities in response to specialty orders from researchers preparing experiments in the field of medicine, with small quantities of these radioisotopes also purchased by industrial researchers. Because small-quantity production of research isotopes is not financially attractive to private-sector producers and is generally not undertaken, DOE attempts to provide all research radioisotopes that are requested, subject to production capability, inventory, and financial constraints. As successful application of a specific research isotope is established, the production and sales of that radioisotope may shift from research to commercial status. In recent years, over 95 percent of DOE's sales of radioisotopes by dollar volume were commercial and 5 percent have been for research. Additional discussion of how DOE's isotope

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**Commentor No. 2568: Mark Beck (Cont'd)**  
***Citizens for a Clean Eastern Washington***

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### ***Response to Commentor No. 2568***

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program fits into the overall U.S. and foreign isotope production capabilities was incorporated into Section 1.2.1 of Volume 1.

- 2568-4:** DOE notes the commentor's concern about NASA's need for plutonium-238 for space missions. A May 22, 2000, correspondence from NASA to DOE identified that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions. DOE chose a 5-kilogram per year production rate as an upper bound due to uncertainties in the SRPS technology development requirements for backup units and variability
- 2568-5:** The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed actions for all alternatives and alternative options. Waste treatment, storage, and disposal facilities for the wastes expected to be generated are identified in Chapter 4 of Volume 1 under the Waste Management sections of the NI PEIS. Spent nuclear fuel generation and management are discussed in the Spent Nuclear Fuel sections of Volume 1 of the NI PEIS. The cumulative impact tables for waste management in Section 4.8 of Volume 1 have been revised to include the individual site's storage, treatment and disposal capacities for comparison. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.
- 2568-6:** DOE notes the commentor's support for Alternative 3, Construct New Accelerator(s), over Alternative 1, Restart FFTF.
- 2568-7:** DOE notes the commentor's views and observations. A separate Cost Report was prepared to provide additional pertinent information to the Secretary of

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2568: Mark Beck (Cont'd)**  
***Citizens for a Clean Eastern Washington***

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**Response to Commentor No. 2568**

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Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. The information provided in the report is not required by NEPA and CEQ regulations to be included in the NI PEIS. The Cost Report was mailed to interested parties on August 24, 2000 and made available on the NE website (<http://www.nuclear.gov>) and in the public reading rooms. For information purposes, about 730 people were mailed the Cost Report. DOE has provided a summary of the Cost Report in this Final NI PEIS.

**2568-8:** The operational wastes generated by a new research reactor may be somewhat less than that of operating FFTF. However, the wastes that would be generated by the construction of a new research reactor must also be considered.



## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2609: Martin Benske**

**2609-1**—There are several possibilities relative to the assertion that FFTF start-up and operation will detract from funds that would otherwise be dedicated to Hanford clean-up. One possibility is that Congress has publicly stated that the Hanford clean-up budget will be the source of FFTF funding, and I am simply unaware of those public statements. Doc Hastings actually put that one to bed.

A second possibility is that Congress has made secret agreements to fund FFTF with funds that would otherwise be allocated to Hanford clean-up, and while we ordinary folks have not been privy to these secret agreements, they have been leaked to environmental activists in Seattle, Portland, and Hood River.

A third, and in my opinion most likely possibility is that the spokesmen for Heart of America Northwest and Columbia River United are liars. Liars is, of course, a strong word, but it is hurled at the Department of Energy so casually and irresponsibly and so often by these same activist groups that I see no reason to gloss over a reasonably obvious truth.

My purpose in appearing before you is first to ask you to focus on what you expect to derive from these meetings and to recognize that testimony from people right on the scene is more important than testimony from distant, anti-nuclear activists whose agendas go far beyond FFTF and Hanford clean-up. Their purposes are obstruction and sabotage of any nuclear activities. FFTF and Hanford clean-up are just the activities of the moment that need to be discredited.

**2609-2**—More important, I want to express my belief and the belief of most people in this community that we would welcome the opportunity to operate FFTF in any way that will serve this nation.

**Response to Commentor No. 2609**

**2609-1:** DOE notes the commentor's views and remarks. The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

**2609-2:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Brian Berglin***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 281.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2582: Bill Brem*

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**2582-1**—What I am concerned about is the one-sided stories that appear in some of the newspapers and the bad press that Hanford generally gets all the time about all the problems, bad work. It says very little about the people really trying to clean the place up and working hard. Some of it seems to have carried over into the newspapers' discussion of the hearings and the restart of FFTF. So it is especially enlightening to see the article in "The Oregonian" two days ago.

I would like to encourage the Energy Department to follow Oregon's lead and objectively consider the benefits of restarting FFTF for treating cancer. The cancer patients deserve it.

*Response to Commentor No. 2582*

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**2582-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Tom Burke***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 286.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2606: Beth Call*

**2606-1**—I should state at the beginning that I support alternative five, deactivation of the Fast Flux Testing Facility.

**2606-2**—The DOE's programmatic environmental impact statement suggests the possibility of shipping weapons plutonium through Puget Sound to fuel FFTF, despite recent vehement protests of nearby residents and the Seattle and Tacoma city councils against receiving even spent nuclear fuels. I just heard a speaker say that probably wouldn't be done. It would probably be brought through the east coast because that would be less expensive, which leaves one wondering how on earth they would get it safely across the continent. How often do we hear of train wrecks and truck wrecks? I can't think of a safe way of transporting it across the continent either.

### *Response to Commentor No. 2606*

**2606-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**2606-2:** The commentor appears to express the concern that DOE would expose people in the Puget Sound area to risks associated with the transport of weapons-grade plutonium. None of the proposed alternatives involved the shipment of any weapons-grade plutonium to any port in the United States. Alternative 1 does postulate that DOE might decide at some point to import mixed oxide fuel from Europe to fuel FFTF. At this time, however, DOE has not proposed to import this fuel through any specific port. If DOE ultimately decides to import fuel from Europe, it would perform a separate NEPA analysis to select a port. This review would address all relevant potential impacts of overseas and inland water transportation, shipboard fires, package handling, land transportation, as well as safeguards and security associated with the import of SNR-300 mixed oxide fuel through a variety of specific candidate ports on the east and west coasts. It would consider all public comments, including local resolutions, concerning the desirability of bringing mixed oxide fuel into the proposed alternative ports. In the event that DOE decides to enhance its nuclear infrastructure, it would not expose any population to high, unacceptable risks under any alternative. Any transportation activities that would be conducted by DOE would comply with U.S. Nuclear Regulatory Commission and U.S. Department of Transportation regulations. Associated transatlantic shipment would comply with International Atomic Energy Agency requirements. In Section J.6.2, DOE reviewed the potential maximum impacts from the marine transportation of mixed oxide fuel from Europe to a representative military port, Charleston, South Carolina, and overland transportation to Hanford. Also in that section, a bounding analysis demonstrates that the maximum potential radiological risks to the surrounding public from mixed oxide fuel shipments would be extremely small (e.g., less than 1 chance in a trillion for a latent cancer fatality per shipment from severe accidents at docks and in channels and less than 1 chance in 50 billion for a latent cancer fatality per shipment from overland highway accidents).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Susan Carlstrom*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 427.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2596: Mel Chapman**  
**International Brotherhood of Electrical Workers, Local 112**

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**2596-1**—I think it's time for Department of Energy to move off of dead center, make a positive step, restart this plant, stop the procrastination, and let's move forward. The life that they save might be their own.

**Response to Commentor No. 2596**

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**2596-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2598: James Chung**

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**2598-1**—In summary, I think the most important point that I'm trying to make is that the FFTF should not only be restarted for the missions that have been outlined more eloquently than I can, but also for the future of our country's nuclear power program.

**Response to Commentor No. 2598**

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**2598-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Frank E. Cole*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 389.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2584: Michael Contini**

**2584-1**—I support alternative 1, restart of the FFTF for the production of medical and commercial isotopes, Pu-238 and research. However, I want a statement in the PEIS that provides a categorical exclusion of using FFTF at any time for the production of nuclear weapons materials at any kind.

**2584-2**—I now want to turn my attention to accountability. There is or was a sign here concerning two FFTF employees fired for falsifying work done. I am familiar with this event since I work at FFTF. This event happened and the employees paid the price. They were fired. In one of the other meetings, there was mention of the event where an in-vessel handling machine was damaged by bypassing interlocks. Again, the individuals responsible, predominantly the operations engineer after an investigation was fired.

Can we say this about Heart of America Northwest, the Government Accountability Project and Columbia River United? What accountability exists for them? They can distort, misquote, take out of context items of great concern. They giggle at hearings. Again, what accountability exists for Watchdogs of Hanford? "Who will watch the Watchman" is a quote I have often heard. I think Julius Caesar said this. The above methods used by these organizations to foster public support, both verbal and financial, are radical and extreme.

**2584-3**—I am concerned with the environment. I want Hanford cleaned up as safe as possible. A small quantity of waste in comparison to the huge quantities already there that FFTF will produce for the missions of the PEIS is a small price to pay for the benefits gained. I want the Willamette River cleaned up, thus helping to keep the Columbia River clean.

**Response to Commentor No. 2584**

**2584-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF. The production of nuclear weapons materials is not one of the missions for which FFTF would be restarted, if Alternative 1 were selected in the Record of Decision.

**2584-2:** DOE notes the commentor's views and observations.

**2584-3:** The commentor's positions on the Hanford cleanup and waste generation benefits under Alternative 1, Restart FFTF, are noted. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are a high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this agreement. Cleanup of the Willamette River is outside of the scope of this PEIS.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: William A. Dautel*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 431.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Jim Davis***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 401.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor No. 2554: Jerome Delvin  
Washington State Representative***

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**2554-1**—I strongly urge the Department of Energy to adopt alternative 1 of the Draft Environmental Impact Statement, which would reactivate the FFTF and use it to produce medical and industrial isotopes and assist with nuclear research. The draft EIS prepared by DOE has identified a clear need for additional reactor capacity, capacity that can be readily provided by FFTF. Use of the FFTF will create the greatest and most efficient use of current resources of our national research and medical isotope needs. The taxpayers would be best served by putting this facility to work for both the Federal Government and for the economy of central Washington. With the need for medical isotopes projected to increase dramatically, America finds it is increasingly dependent on overseas facilities to meet its needs. Radioactive isotopes are frequently used to treat cancer and it is important that we develop a domestic facility for production of these isotopes.

***Response to Commentor No. 2554***

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**2554-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Ken Dobbin, Councilman,  
City of West Richland, WA***

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 400.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2577: Amy Evans  
Citizens for Medical Isotopes*

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**2577-1**—So what I have to say is we have already waited too long. We are not about to grab an opportunity that lies ahead of us. We have already waited far too long to provide the reliable and affordable supply of medical isotopes that are needed to move new cancer treatments forward. And I think my comment about the PEIS would be choose the option that is going to provide the best reliable supply of quality and quantity isotopes that we are going to need for research and treatment in the shortest amount of time. And that answer is restart the FFTF.

*Response to Commentor No. 2577*

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**2577-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2601: Martin Evans**

**2601-1**—I recommend alternative number five, the shutdown and permanent closure of all activities of the Fast Flux Test Facility reactor.

**2601-2**—It is my belief that the medical benefits of nuclear isotopes, while large, are outweighed by the risks to public health that come with any increase in the amount of nuclear waste in our region of the type generated by FFTF.

**Response to Commentor No. 2601**

**2601-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**2601-2:** DOE notes the commentor's concern regarding waste generation. As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed actions for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. This NI PEIS has provided estimates of human health impacts associated with a range of reasonable alternatives for the production of isotopes for medical uses, research and development, and as heat sources for radioisotope power systems, including the restart of FFTF. The methodology used provides realistic results based upon our current knowledge of the health impact of low doses of radiation. Section 4.3 of Volume 1 provides the results of the evaluation of potential health impacts that would be expected to result from implementation of Alternative 1 which includes restart of FFTF, including normal operations and a spectrum of accidents that included severe accidents. The environmental analysis showed that radiological and nonradiological risks associated with restarting FFTF would be small.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2574: Darrel Fisher**  
**Nuclear Medicine Research Council**

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**2574-1**—I would like to compliment the Department of Energy on the work that it has been doing in this area, and I support alternative #1, restart of the Fast Flux Test Facility.

**2574-2**—My statements tonight address the need for medical isotopes. There was a quotation in the Seattle Post Intelligence this morning quoting Dr. Harry Kramer that we have all the isotopes that we need and that there is not a need for any more production. That is blatantly false and irresponsible. I worked today with Dr. Julie Park and Dr. Dana Matthews at the Fred Hutchinson Cancer Research Center putting together a protocol for FDA approval of a new treatment of neuroblastoma in children. Dr. Park is at Children's Hospital and Dr. Matthews at Fred Hutchinson Cancer Research Center. These physicians recognize that the only effective treatment of this disease is a combination of surgery and radiolabeled antibodies, in particular to treat the micrometastatic disease, combined with chemotherapy, additional radiation therapy, and in some places a marrow transplantation. This is a very aggressive therapy for an otherwise incurable disease.

If we are able to produce these isotopes in the reactor in Richland, the physicians in Seattle will be first in line to use them, each and every one. The physicians that I have talked to, they cannot depend on the FFTF if it is closed or if it is in standby. That is why the statements that you see, we cannot depend on FFTF for our isotopes because it is not operating. Each one that I have talked to, including physicians at the University of Washington in the Nuclear Medicine Division, has said you make the isotopes, we will use them.

**Response to Commentor No. 2574**

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**2574-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2574-2:** DOE notes the commentor's support for the use of FFTF to produce medical isotopes.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Dennis A. Fitzgerald***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 426.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2605: Mike Fox*

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**2605-1**—I'm a supporter of the restart of FFTF.

**2605-2**—I was in a meeting with the Society of Nuclear Medicine in 1994 where Hazel O'Leary spoke to the national meeting. I took notes from her meeting that I have here that she presented to the Society of Nuclear Medicine. Among her points, she say one, I am proposing a vision, a world class nuclear medicine program for the 21-st century.

Two, we should eliminate the full cost recovery. I don't know why in the world we're demanding economic viability when the government throws \$6 billion contracts as basic physics and NASA and so forth and don't ask for an economic recovery. She was very explicit in saying we should eliminate the full cost recovery.

We must advance the frontiers of nuclear medicine and radiopharmacy and biotechnology and instrumentation and so forth. Something near and dear to me, the DOE. She obligated the DOE to work together in demystifying all things nuclear, reducing fear, healing mistrust.

Now, that was the Department of Energy making those commitments, and yet I would describe them, as I have here, as broken promises. I think that the Department of Energy has led to this public fear, because I have been involved at times when the Department of Energy would call me up in my career and ask if I had certain pamphlets and booklets that had been produced in the early 70's.

This was by Tina Hobson, who was in the Carter Administration, head of the Office of Communications. She was a Naderite that got appointed in the Carter Administration. She confiscated those documents, and I later learned that they were destroyed. There isn't a whole lot of difference here from the burning of the books in 1930 Germany.

So, I think that if there's someone, if there's a will within DOE headquarters to re-examine what DOE has done and what they have promised and established a scientifically defensible approach to these things, an approach such as beneficial, I think the DOE could enhance its own public trust.

### *Response to Commentor No. 2605*

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**2605-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2605-2:** DOE notes the commentor's viewpoint.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2581: Gary Greene**

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**2581-1**—One doesn't have to look too far to see what the quality of the infrastructure in Russia is right now. I can't expect the EIS to capture what the environmental impact might be to the world in general and other nations and other populations in the PEIS, but I think that it should be noted that we would be putting a great number of people at risk by obtaining those isotopes from other sources.

**2581-2**—The comment about keeping eastern Washington clean rankles me because that is the height of not in my backyard. What I think is that, yes, in my backyard because we have the regulatory infrastructure. We have the oversight and safety. We have, I know, the skill of our work force, and we have the tools necessary to carry out these important missions at FFTF and in a safe environmental free manner.

**2581-3**—Also, that we will — and this is a probabilistic kind of thing. We stand a better chance of accomplishing those missions than the other options that are listed in the PEIS.

**Response to Commentor No. 2581**

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**2581-1:** The commentor's interest in the safety of isotope production and distribution capabilities in Russia is noted. Under the No Action Alternative, plutonium-238 would be purchased from Russia to support NASA's deep space missions. However, evaluation of potential health impacts in Russia is outside the scope of this NI PEIS.

**2581-2:** The commentor's support for Alternative 1, Restart FFTF, is noted. The commentor's position on safety and skills of the Hanford Site workforce is noted.

**2581-3:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: R. K. Greenwell*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 411.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2552: Patricia Hale, Washington State Senator,  
8th Legislative District**

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**2552-1**—The Fast Flux Test Facility has long been the crown jewel of the nuclear industry and that has been borne out by ten years of operating excellence. But the Government has never tapped into the enormous potential of this remarkable facility and the time has come for us to do so.

With the FFTF, as Congressman Hastings said, we have a unique facility that can produce the variety, the quality of isotopes that will be needed in the decades ahead. Why then is our nation supporting 100 reactors in more than 40 foreign countries? It is incomprehensible to me that we would do that, invest in foreign facilities, when we have by far the most superb facility right here at home.

Obviously there is a clear and compelling need for medical isotopes. This year in the United States alone, half a million people will die from cancer and more than twice that from heart disease. Our country can no longer afford to turn its back on an existing state-of-the-art facility, already paid for by taxpayer dollars that could and should lead the world in medical isotope production and research. Nor should we risk heavy reliance on foreign sources, no matter how friendly, for our isotope supply. Without the FFTF, we will continue to be reliant for 90 percent of our isotope needs on foreign sources. And history is filled with grim reminders of the consequences that happen when political winds change, and they do.

And finally, at this time when the world is struggling with scientific challenges in medicine and energy production and waste management and space exploration, it would be both wasteful and foolhardy for the Government to dismantle this versatile facility that could boost our national capabilities and lead the way to important new discoveries.

**Response to Commentor No. 2552**

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**2552-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF. DOE also notes the commentor's statement about the Foreign Research Reactor Program; however, this program managed by the DOE Office of Environmental Management, is separate from the proposed action in this PEIS.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2557: Larry Haler**  
**Richland City Council and Chairman, Hanford Communities**

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**2557-1**—I had the opportunity a year ago to testify before the NERAC Committee which made the decision to do this PEIS for the FFTF. I flew back to Washington, D.C. and listened to some very learned people make that decision, some very impressive minds that the Energy Secretary had gathered from industry as well as science and as well as from the universities who made this decision. But one thing that was brought out during that one day of testimony and presentations that were given was that we do not have enough reactor volume in this country to generate the kind of isotopes that are needed to save lives. And if we were to use the existing DOE reactor facilities, we would be pushing some of the programs out — and I believe you mentioned this earlier, Colette. Some of those programs would be the critical defense programs that we have.

The only reactor in the United States that could generate — or I should say the only facility that can generate the type of quality isotopes that we need for cancer patients to effectively cure cancer in those patients that the isotopes would be applied to is the FFTF. Let's not kid ourselves. An accelerator does not, and that was brought out in the NERAC committee meeting. Accelerators do not generate the quality of neutrons and the quality of proton isotopes that are needed and only the FFTF can do that.

**Response to Commentor No. 2557**

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**2557-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF. The commentor should note the DOE reactors and accelerators are currently producing medical isotopes for research and clinical use.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Susan Hamilton*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 2139.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2553: Shirley Hankins, Washington State  
Representative, 8th Legislative District**

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**2553-1**—The United States Government has a great opportunity to save lives with continued research at FFTF. If continued hearing or studies are needed, my attitude is you should get on with it.

Our community has developed ways to take care of waste. We have the research personnel to treat cancer patients. Please let us go forward. This will be good for your family, for members of my family, and the members of every family in the United States.

**Response to Commentor No. 2553**

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**2553-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Doc Hastings,  
U.S. House of Representatives, WA*

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 387.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### **Commentor No. 2579: Harold Heacock**

**2579-1**—What I would like to do tonight is simply touch on a few of the claims that have been made in the testimony this week. First is FFTF is an inherently safe reactor designed and built to the highest standards available in the country and is the safest of all of the available DOE facilities. It will operate at a lower power level than was designed for adding to the margins of safety. There are no significant environmental releases from that reactor.

The fuel — there is a fuel supply available which can be utilized for the first 15 years of operation and there are alternatives available for use beyond that point which are nonproliferation.

**2579-2**—There are no significant waste streams from it. And there is no high level waste generated by the FFTF because there is no fuel reprocessing planned. Rather the spent fuel will be stored in dry casks and disposed of. So the words we have heard about adding high level waste to already leaking tanks is not relevant. It is insupportable.

**2579-3**—The FFTF was not designed or ever operated for military programs and there are none proposed in the current EIS.

**2579-4**—The possibility of accelerators? Yes, accelerators can produce a lot of materials. But an accelerator the size and power that would be required to equal the capacity of the FFTF does not exist even on paper and is extremely doubtful to be built in the near future.

**2579-5**—The idea of bringing plutonium in through Puget Sound is simply unrealistic. The national port for shipping spent fuel materials, not fresh fuel, into this country is the Navy port of Charleston, South Carolina, which routinely handles those shipments.

**2579-6**—In terms of impact to clean-up, the FFTF is currently funded from separate funds from the Environmental Management budget and if it were to be started up and operated, it would be funded out of entirely separate funding. It would not take funding from the clean-up program.

**2579-7**—On the other hand, if the decision were made to shut down and decommission the reactor, then it would be transferred to the Environmental Management Program at an estimated cost of some \$200 million for decommissioning, and that would have to come out of an already inadequate EM budget here at Hanford.

**2579-8**—Look at all the facts and all the issues. You can only come to one conclusion and that is that FFTF is the best solution to meet the programmatic needs.

### **Response to Commentor No. 2579**

**2579-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF. FFTF can be operated safely to accomplish the stated missions. The analyses presented in this NI PEIS reflect the proposed changes to the reactor core (including fuel and irradiation targets) to perform the stated missions. The Record of Decision for the PEIS will be based on a number of factors including environmental impacts, costs, public input, nonproliferation issues, schedules, technical assurance, policy, and program objectives. In the event that FFTF restart is selected in the Record of Decision, a new Safety Analysis Report, including a Probabilistic Risk Assessment (PRA), will be prepared and it will address any changes in plant configuration, operating conditions and procedures. The revised safety analyses will be subjected to a thorough independent review process.

**2579-2:** DOE notes the commentor's observations regarding waste generation. As identified in Section 4.3.1.1 13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. High-level radioactive waste would not be generated from merely operating FFTF. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision.

**2579-3:** DOE notes the commentor's statement concerning the actions proposed for FFTF and evaluated in the NI PEIS. The only proposed actions being considered are those analyzed in the NI PEIS, which are the production of isotopes for medical, research, and industrial uses; plutonium production for future NASA space exploration missions; and U.S. nuclear research and development needs for civilian application. None of the alternatives in the NI PEIS include defense missions, nor would they contribute to future weapons production.

**2579-4:** While DOE has the final design for accelerator with an energy level and size larger than the high-energy accelerator proposed in the NI PEIS, DOE has no conceptual, preliminary, or final design for an accelerator that has the energy level and size

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2579: Harold Heacock (Cont'd)**

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**Response to Commentor No. 2579**

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required to support the plutonium-238 production mission at the maximum production rate of 5 kilograms per year. The accelerator designs for Alternative 3 were developed to a level of detail that was adequate to assess the environmental impacts associated with the construction and operation of the proposed facilities and the technical feasibility of meeting the mission objectives. Figure 2.33 indicates that design and construction of the high-energy accelerator would be completed in 5 years plus an additional 2 years would be required for startup and testing of the facility. DOE operates two accelerators that are being utilized for the production of medical isotopes, the Brookhaven Linac Isotope Producer (BLIP) located at the Brookhaven National Laboratory and the Los Alamos Neutron Science Center (LANSCE) located at the Los Alamos National Laboratory. DOE is currently in the process of upgrading the LANSCE facility with the 100 MeV isotope production facility. The upgrade is scheduled for completion in 2001.

**2579-5:** Alternative 1 does postulate that DOE might decide at some point to import mixed oxide fuel from Europe to fuel FFTF. At this time, however DOE has not proposed to import this fuel through any specific port. If DOE ultimately decides to import fuel from Europe, it would perform a separate NEPA analysis to select a port. This review would address all relevant potential impacts of overseas and inland water transportation, shipboard fires, package handling, land transportation, as well as safeguards and security associated with the import of SNR-300 mixed oxide fuel through a variety of specific candidate ports on the east and west coasts. It would consider all public comments, including local resolutions, concerning the desirability of bringing mixed oxide fuel into the proposed alternative ports. In the event that DOE decides to enhance its nuclear infrastructure, it would not expose any population to high, unacceptable risks under any alternative. Any transportation activities that would be conducted by DOE would comply with U.S. Nuclear Regulatory Commission and U.S. Department of Transportation regulations. Associated transatlantic shipment would comply with International Atomic Energy Agency requirements. In Section J.6.2, DOE reviewed the potential maximum impacts from the marine transportation of mixed oxide fuel from Europe to a representative military port, Charleston, South Carolina, and overland transportation to Hanford. Also in that section, a bounding analysis demonstrates that the maximum potential radiological risks to the surrounding public from mixed oxide fuel shipments would be extremely small (e.g., less than 1 chance in a trillion for a latent cancer fatality per shipment from severe accidents at docks and in channels and less than 1 chance in 50 billion for a latent cancer fatality per shipment from overland highway accidents).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2579: Harold Heacock (Cont'd)*

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*Response to Commentor No. 2579*

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**2579-6:** The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities.

**2579-7:** The commentor should note, that the NI PEIS addresses deactivation of FFTF, not decommission of FFTF. Deactivation of FFTF is a Hanford cleanup cost.

**2579-8:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Patricia Heasler***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 392.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Suzanne Heaston  
[for] U.S. Senator Slade Gorton, WA*

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The oral comments were submitted in greater detail at the Seattle, Washington, hearing. For responses, see Commentor No. 2497 (Suzanne Heaston).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2589: Raymond Issacson**

**2589-1**—I look at FFTF as our prize jewel. And as has been said by many, including some pretty high level members of the Department of Energy, that is exactly what it is. It operated, as you have heard tonight, for a long time without fault. It was idle for some time. Many missions have been looked at. But I think this is the first one that really is the most humanitarian mission of all that this community was willing to support.

But nonetheless, FFTF is there. It is there for us to again utilize in the defense of people of the United States and other places against diseases. Not just cancer but heart diseases, osteoporosis as was mentioned earlier and a few other things of that nature.

**2589-2**—I got a chance to handle tons of plutonium during the inspection process as we shipped that stuff out. The fear of plutonium I think is over exaggerated. It is dangerous and you've got to handle it carefully. There is no question about that, both from a critical mass standpoint and from the safety standpoint. We did have accidents, yes. But darn few with respect to what happened out there

**2589-3**—Some of the people spoke to the issue of how much power it takes to run these accelerators. And was that factored into the overall cost analysis, including the infrastructure required to produce the power? Because in some cases, you know, we talk about the size of a reactor, and you can't build a reactor today for less than about a billion dollars.

**Response to Commentor No. 2589**

**2589-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2589-2:** Procedures and controls will be in place to protect personnel and facilities from contamination. Both neptunium-237 and plutonium-238 would be stored in shielded containers in quantities and configurations that preclude criticality. Target preparation and postirradiation processing would be carried out in batches involving quantities well below those at which criticality could occur.

**2589-3:** The cost of the electric power required to the support accelerator operation was included in the annual operating cost estimate for Alternative 3. The infrastructure associated with generating that power was not considered.



## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2558:** *Charles Kilbury, Councilman,  
City of Pasco, WA*

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**2558-1**—I am a Councilman and former Mayor of the City of Pasco. In addition, I am also chairman of the Franklin County Democratic Central Committee, a trustee of the Southeastern Washington Central Labor Council and an officer of the United Transportation Union Local 977, and I am speaking in behalf of all four bodies. These four bodies are quite familiar with the abilities of the Fast Flux Test Facility, having followed its beginning to completion and its operation for the Department of Energy. And each body has passed numerous resolutions supporting the resumption of operations for the FFTF, assured this facility is properly the most capable and the most financially reasonable method of accomplishing the proposed functions desired by the Department of Energy.

The FFTF can probably produce the greatest profusion of new isotopes for use as required for medical treatment of disease, including that their sale will go a long ways toward paying for the operation of the FFTF, and will certainly eliminate the importation of particles from the CANDU reactors in Canada. In addition, the production of plutonium-238 to provide power for the operation of our instruments traveling through space is a use which can be provided for a reasonable cost and with more production than in any other avenue.

Finally, the FFTF already has demonstrated its capability to function as a nuclear science and radiation services users facility. That function has already taken place during ten years of operation and it worked quite well. Therefore, these four projects are well adapted to the FFTF and the entities desire to see that they are carried out.

**2558-2**—...we expect to see them carried out without use of any clean-up money.

**Response to Commentor No. 2558**

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**2558-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF. FFTF operation would not eliminate the need to acquire isotopes from foreign sources, including Canada. DOE has revised Section 1.2 of Volume 1 of the PEIS to clarify the availability of isotopes from other producers.

**2558-2:** The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2 of Appendix N, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Bruce Klos***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 406.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2564: Jim Knight*

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**2564-1**—Now we are looking at something else that would help people. A way to reduce cancer, to kill cancer cells and give people an extension of their lives. This is something we can do with the FFTF. Now as with food irradiation, it is like if we had a house on fire there and our neighbors, which had the radioisotopes that prevent the contamination, wouldn't turn on their fire hose. We are looking at the same thing here. The fire hose being the radioisotopes from the FFTF and the fire being these people whose lives are flaming out early, prematurely, because of not having the radioisotopes. Right now we are in a position — Colette and DOE and, you, the bureaucracy, are in the position of playing God. You can make a decision. You can start the FFTF and reduce the death and pain of these cancer patients, or you can sit by and spend days, months and years doing these studies and at the rate of, what is it, 1,000 or 1,500 people dying each day.

**2564-2**—How many days are we going to look at these many people dying because the DOE and bureaucracy are sitting on all these studies in Washington and using these smoke screens that are set up by Heart of America and by these other anti-nuclear who do not have to bear any responsibility of any of these people dying, but they can certainly help you keep your hand on the faucet and not turn the water on to help save these people.

### *Response to Commentor No. 2564*

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**2564-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2564-2:** DOE notes the commentor's views and concerns particular with regard to delays in the medical isotope production mission. DOE is committed to discharging its responsibilities in an open and unbiased manner and providing the public with comprehensive environmental reviews of its proposed actions. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives. Decisions made will be published in the Record of Decision no sooner than 30 days after publication of this NI PEIS.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2607: Ava Kruse-Chung**

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**2607-1**—As a health care professional, it's my recommendation for the start-up of FFTF.

**Response to Commentor No. 2607**

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**2607-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2600: Molly Lewis*

**2600-1**—I would be a great proponent of alternative five, which would be no start-up for the FFTF.

**2600-2**—I'm really concerned about the waste. The contamination is already going into the Columbia without any method of stopping or controlling the waste.

I'm also extremely concerned that the EIS has no proposed clean-up plan in their statement. I'm very concerned that it would just contribute to the waste that is already going into the Columbia, which is becoming more and more polluted. I'm very worried about that because I see the Columbia becoming a more and more polluted river, and I don't think that we need to do anything to endanger its health any further.

**2600-3**—Also, as far as cancer research goes, none of these isotopes have been FDA approved for the cancer patients, and I think that needs to be taken into account, that these isotopes might not even be approved by the FDA and therefore not used for cancer. Therefore, the FFTF would already have been started up without any benefit to anyone, really.

Also, the medical team that the Department of Energy sent out to look at the possible options for the FFTF said that the FFTF was not well suited for the production of medical isotopes. It seems very ludicrous to me that the FFTF would be restarted for these medical isotopes if it's not well suited to it, where other facilities are much more well suited for this project.

### *Response to Commentor No. 2600*

**2600-1:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.

**2600-2:** DOE notes the commentor's concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are high priority to DOE. Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE is fully committed to honoring this agreement. FFTF is approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to groundwater. As indicated in analyses presented in Chapter 4 of Volume 1 (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4), there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of Hanford facilities that would support the nuclear infrastructure missions described in Section 1.2 of Volume 1.

**2600-3:** DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1.2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However,

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)**Commentor No. 2600: Molly Lewis (Cont'd)**Response to Commentor No. 2600*

sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE has taken the Expert Panel and NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. These reports were made available to the public at the NI PEIS public information centers and on the Internet at [www.nuclear.gov](http://www.nuclear.gov). The list of isotopes shown in Table 1-1, Volume 1 of the Draft NI PEIS are a representative set of isotopes selected on the basis of the recommendations of the Expert Panel, medical market forecasts, reviews of medical literature, and more than 100 types of ongoing clinical trials that use radioisotopes for the treatment of cancer and other diseases. Although these isotopes are a representative sample of possible isotopes that could be produced, DOE expects that the actual isotopes produced as a result of the proposed action would vary from year to year in response to the focus of clinical research and the specific market needs occurring at that time. Therefore, unless used for research and development or clinical trials, medical isotopes that have not been approved for use by the Food and Drug Administration would not be produced.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2566: Ellen Magan**

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**2566-1**—I am here on behalf of my son who a year and a half ago got hit in the eye with a golf ball and lost his eye. He had three surgeries in two weeks. Sometime after that, we had to go to the hospital to see what the swelling was doing in the implant in his eye. They didn't have to give him IV's. They didn't have to put him to sleep. He didn't have to go in for surgery. He simply got a shot of an isotope. They did a scan and they were able to tell the condition of his eye without going in there and invading it at all. And I would just ask you to keep the isotopes coming for people like him.

**Response to Commentor No. 2566**

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**2566-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2588: Bill Martin**  
**Tri-City Industrial Development Council**

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**2588-1**—TRIDEC strongly supports the objectives of DOE's nuclear energy program and specifically endorses the implementation of the missions identified in the draft EIS. We also strongly support the identification of the FFTF as the preferred option for accomplishing these missions. The draft EIS clearly shows the capability and superiority of the FFTF over the other alternatives considered. FFTF is the most modern reactor available. It was designed and constructed to meet DOE and NRC standards and operated flawlessly over a 10-year period with no significant safety incidents or issues.

In fact, the operation of FFTF will provide very positive economic and social impacts, not only in the Pacific Northwest but also the nation. Local business, labor and government organizations strongly support the restart of FFTF.

**2588-2**—FFTF has been clearly identified in the EIS to be the preferred option for meeting the identified program missions without negative social, environmental or economic impacts.

We request that the assets of FFTF receive an objective, balanced and realistic evaluation during the preparation of the record of decision.

**Response to Commentor No. 2588**

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**2588-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2588-2:** DOE notes the commentor's views. In accordance with Council on Environmental Quality regulations (40 CFR 1502.14(e)), DOE has identified its preferred alternative in Volume 1, Section 2.8 of the Final NI PEIS and included a discussion of DOE's reasons for selecting it. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2595: Pat McDaniel**  
**Mid-Columbia Engineering**

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**2595-1**—We have a facility out here that is just essentially rotting away that the American taxpayer has paid literally billions of dollars for, and it does have a lot of use for the production of plutonium for the use for health purposes. As our aging community gets older and older, there is continued use in new developments for these types of isotopes, and that's why I think it's very important that we keep the FFTF alive and put it back into production.

**Response to Commentor No. 2595**

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**2595-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2578: Debbie Mensinger**

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**2578-1**—I want to see medical isotopes produced here at FFTF so that we have an adequate local source of supply and are not forced to go to a foreign country. FFTF is the only reactor in the Western Hemisphere capable of producing large quantities of several high specific activity isotopes like iodine-131. The FFTF reactor could produce enough copper-67 and alpha-emitting isotopes for cancer treatment options.

My message is simple. Restart FFTF immediately. Include in its mission the production of medical isotopes.

**2578-2**—As a taxpayer, I am hopeful that the Department of Energy will look at the facts behind each alternative and not be swayed by political pressure or anti-nuclear groups spreading misinformation while using scare tactics.

**Response to Commentor No. 2578**

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**2578-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2578-2:** DOE notes the commentor's views including the need for reliance on factual information as the basis for sound decisionmaking. The selection of facilities and site locations for accomplishing expanded civilian nuclear energy research and development and isotope production missions is not a political decision. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor No. 2561: Armand Minthorn  
Confederated Tribes of Umatilla***

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**2561-1**—This evening, I come here to cite our concerns with the consideration that is being deliberated about the Fast Flux Test Facility. I come here not only to listen, but to learn and to not make any hasty judgments. A lot of the people in this room my tribe have to work with and I have to work with. And by no means do I want to interfere with those working relations. But there comes a time when we have to make a choice and we have to make a decision. I would hope that any decisions that are made here wouldn't be criticized. I am not here to criticize anyone for the decision that they are going to make.

This evening, I come here and I join Governor Kitzhaber, the State of Oregon, in opposing the restart of Fast Flux Test Facility.

***Response to Commentor No. 2561***

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**2561-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Victor Moore***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 408.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor No. 2599: Derek Mosely***

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**2599-1**—I'm testifying for my best friend, Andrew Sniden. I'm 15 years old. I'm a sophomore at Richland High School. Andrew and I, we were born on the same day, October 25, 1984, in Northwest Hospital in Seattle, Washington.

We were really close friends because we were born, you know, the same day, friends at birth, soul mates, like brothers. No matter where we lived, whenever we got together, we just clicked.

Well, Andrew got real sick in February of 1997 when he was 12, and they diagnosed him with AML, which stands for acute myelogenous leukemia.... Nuclear medicine, or radioisotopes, could have been able to save my best friend, Andrew.

Don't let someone die just because you don't understand the possibilities that FFTF means to others with cancer, especially if they're only 14.

***Response to Commentor No. 2599***

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**2599-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2556: Carol Moser, Mayor Pro-Temp,  
City of Richland, WA**

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**2556-1**—The FFTF holds the possibility to cure some cancers in our lifetime. Already radioisotope therapy has been used successfully in treating many types of human diseases including rheumatoid arthritis and some forms of leukemia.

The draft PEIS shows that the FFTF could be used for many other missions as well, and you will hear lots of expert testimony testifying to the technology and its possibilities. I am here because it is time to make a positive decision to restart the FFTF. For this community, it is a mission that we deserve. A possibility to overcome the stigma that our nuclear legacy has left us with and to put the U.S. citizens past investments to good use, especially in the efficient production of isotopes for commercial demand. Let's not hold future generations hostage because we are afraid to take the steps of progress. I strongly urge the adoption of alternative 1 of the draft PEIS.

**Response to Commentor No. 2556**

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**2556-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2567: Rick Mouts*

**2567-1**—I was not surprised that the PEIS confirmed that there was essentially no public risk associated with operation of the FFTF to support an expanded isotope mission. Since I have been associated with operation of the FFTF for many years, I can personally attest to its high standards of safety.

**2567-2**—One brochure I have read from front to back is entitled “Hanford in the River”, by Columbia River United. This brochure identifies the major areas in past operations at Hanford that have impacted the Columbia River. I would like to point out that the FFTF operated for nearly 10 years. FFTF is not mentioned one single time in this activist publication for impacting the Columbia River. Why? Because the operation of FFTF has absolutely no impact on the River.

I honestly do not understand the basis for many of Heart of America Northwest claims that restarting FFTF will have enormous environmental consequences for the Pacific Northwest for generations to come. Or their claim that the public must demand that DOE shut down FFTF to prevent more disasters at Hanford and save the future of Hanford clean-up.

**2567-3**—Another handout I read was from Columbia Riverkeeper. In it they demand that the following statement be removed from the PEIS summary on spent fuel management. “The environmental impacts associated with the existing inventory of spent fuel at the Hanford site are minimal.” I agree that this statement should be removed. Instead, the PEIS summary should reflect DOE’s well publicized and appropriate commitment to remove the 2,100 metric tons of corroded defense mission spent fuel from Hanford’s 100 area water basins. This defense mission’s spent fuel does not include the 16 metric tons of non-defense spent FFTF fuel. The PEIS summary should also discuss the minimal environmental impacts associated with the spent FFTF fuel on its own merits. Namely, that it is not corroded and is stored in dry storage casts, not aging defense mission water basins. This section should also be consistent with Chapter 4 of the PEIS which correctly states that the FFTF spent fuel will be shipped to the repository for disposal.

Another activist statement made by Seattle-based Heart of America Northwest contends, “Restart of the FFTF nuclear reactor will have enormous environmental consequences for the Pacific Northwest for generations to come. Restart of the FFTF nuclear reactor will mean importations of weapons grade plutonium and mixed oxide fuel to Hanford from Germany and production of 35,000 pounds of high level nuclear waste.” Here they mean the 16 metric tons of spent FFTF fuel, “Waste which US DOE has no idea where or how to dispose of. But the report,” — and here they mean the PEIS — “just concludes that the waste can be stored indefinitely in Hanford.”

### *Response to Commentor No. 2567*

**2567-1:** FFTF can be safely operated to support the nuclear infrastructure missions described in Section 1.2 of Volume 1. Section 4.3 of Volume 1 provides the results of the evaluation of potential health impacts that would be expected to result from implementation of Alternative 1, including normal operations and a spectrum of accidents that included severe accidents. The environmental analysis showed that radiological and nonradiological risks associated with restarting FFTF would be small.

**2567-2:** The stated mission delineated in the NI PEIS would not impact the Columbia River. FFTF is located approximately 4.5 miles from the Columbia River. There are no discharges to the river from FFTF and no radioactive or hazardous discharges to the groundwater. Analyses presented in Chapter 4 of the NI PEIS (e.g., Sections 4.3.1.1.4, 4.3.3.1.4, 4.4.3.1.4, 4.5.3.2.4, and 4.6.3.2.4) indicate that there would be no discernible impacts to groundwater or surface water quality at Hanford from operation of the existing Hanford facilities in support of the stated missions. Also, no water quality impacts would be expected as a result of permanent deactivation of FFTF (Section 4.4.1.2.4).

**2567-3:** The discussion in the Summary and Section 4.8.3.5 of Volume 1 on the cumulative impacts for spent nuclear fuel management at Hanford was revised to clarify that the management of the existing spent nuclear fuel at Hanford results in a dose of less than 0.1 millirem per year of the maximally exposed member of the public. This dose is well within the DOE limits given in DOE Order 5400.5. As discussed in that Order, the dose limit from airborne emissions is 10 millirem per year, as required by the Clean Air Act; drinking water is 4 millirem per year, as required by the Safe Drinking Water Act; and the dose limit from all pathways combined is 100 millirem per year. DOE has committed to remove the spent nuclear fuel at Hanford for ultimate disposition in a geologic repository. In full recognition of DOE’s position to take expeditious action in regards to Hanford cleanup, the NI PEIS evaluated the maximum cumulative radiation exposure to the public from all reasonably foreseeable Hanford Site activities over the 35 year time-frame. These activities include future waste management (as estimated in the Hanford Comprehensive Land Use Plan), tank waste remediation, K Basin spent nuclear fuel management, decommissioned naval reactor plant disposal, and Plutonium Finishing Plant Stabilization (see section 4.8.3.3). As shown in Table 4-173, the dose to the maximally exposed individual would be expected to remain well within regulatory limits. Based on an exposure period of 35 years, 0.21 (<1) latent cancer fatalities would be expected to occur among the local population over the 35-year period as a result of Hanford related radiation exposure. The cumulative impact assessment also determined that the

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2567: Rick Mouts (Cont'd)**

First, the FFTF fuel is not nor could it ever been classified as weapons grade plutonium. Also, had Heart of America Northwest read Chapter 4 of the PEIS, they would know that DOE did not in any way conclude that the spent fuel would be stored indefinitely at Hanford. Instead they would know that the disposition path for the 16 metric tons of spent FFTF fuel is to ship it to the repository for disposal. The same process as for the nation's 105,000 metric tons of commercial reactor fuel. They would also know that the timeline for doing this is either during operation or at cessation of reactor operation. Furthermore, if Heart of America Northwest really had public education in mind, they would be knowledgeable about the status of the repository at Yucca Mountain. They would then know that the FFTF fuel is suitable for repository disposal in its current form and that its contribution to the overall projected repository inventory is only 0.015 percent.

**2567-4**—Heart of America Northwest must provide accurate, credible analysis to substantiate their claims. They must also be willing to come to the table with their concerns so that they can be resolved. Operation of FFTF to produce isotopes for this nation is too important to throw out based on the hearsay of a few activist groups. By using unsubstantiated claims in an attempt to manipulate the public into forcing DOE to shut down FFTF, it is my opinion that Heart of America Northwest has seriously undermined the NEPA process and their own credibility as a stakeholder.

**2567-5**—I fully support the restart of FFTF to produce medical isotopes.

**Response to Commentor No. 2567**

incremental annual radiation dose to the maximum exposed public individual from the NI-PEIS proposed operations at FFTF and FMEF or RPL, including the impact of storing the 16 metric tons of heavy metal of spent FFTF nuclear fuel (see section 4.3.1.1.14) that would be generated in the 35 year nuclear infrastructure operation period, would be 0.0054 mrem. This assessment also determined that 0.0045 latent cancer fatalities would be expected to occur among the local population as a result of the NI PEIS related radiation exposure over the 35 year period. Also note that in section 4.3.1.1.14, it is stated that upon cessation or reactor operation, or earlier, this spent fuel inventory would be shipped off-site to a geological repository for disposal. The annual doses to the public from the Hanford site and proposed NI PEIS activities above are insignificant. For perspective, the radiation dose the average American receives from natural sources is about 300 mrem each year. Based on the same 35 year time period used above, approximately 2,000 latent cancer fatalities would be expected among the same population as a result of this natural (non-Hanford related) radiation exposure. In that same 35 years, about 19,000 cancer fatalities from all causes would be expected in the same population.

**2567-4:** DOE notes the commentor's views on the need for accurate, credible analysis to substantiate claims and concerns that unsubstantiated claims undermine the NEPA process.

**2567-5:** DOE notes the commentor's support for Alternative 1, Restart FFTF.



## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2597: Mark Naulty*

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**2597-1**—I support the restart of the Fast Flux Test Facility outside of Richland. I think it will be a huge benefit to our community and nation with its research and its development of isotopes.

**2597-2**—I also believe that some things are not being looked at, such as the cost of power. The cost of power in the last year has quadrupled to enormous rates, and that the addition of a generator on the Fast Flux Test Facility would also help pay for its cost.

### *Response to Commentor No. 2597*

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**2597-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2597-2:** DOE notes the commentor's view that FFTF could generate power to help pay for its cost. However, the purpose of the NI PEIS is to evaluate the environmental impacts of reasonable alternatives to expanding DOE's existing nuclear facility infrastructure. FFTF was not designed for the production of electric power. For example, it has no turbine generators and actually requires some electric power for operations (see description of FFTF in Volume 1, section 2.3.1.1). Consistent with its mandates under the Atomic Energy Act, DOE seeks to maintain and enhance its infrastructure for the purposes of addressing three primary needs: 1) to support the need for increased domestic production of isotopes for medical, research, and industrial uses, as initially identified by a panel of experts in the medical field and reaffirmed by the Nuclear Energy Research Advisory Committee; 2) to support future NASA space exploration missions by re-establishing a domestic capability to produce plutonium-238, a fuel source that is required for deep space missions and which the U.S. has no long-term, assured supply; and 3) to support civilian nuclear research and development needs in order to maintain the clean, safe, and reliable use of nuclear power as a viable component of the United States' energy portfolio. These missions do not include the generation of power. A separate "Cost Report for the Alternatives Presented in the Draft NI PEIS" was issued by DOE in August 2000, which is available at the NI PEIS public information centers and on the Internet at [www.nuclear.gov](http://www.nuclear.gov).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2613: Jack Nelson*

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**2613-1**—Restart and operation of the Fast Flux Test Facility is a pro-active step in meeting our nation's medical, industrial, and space exploration isotopes needs, a progressive approach to nuclear power research, and a wise use of public dollars.

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**2613-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Debbie Nielsen*

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 425.

*Response to Commentor No. 2613*

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*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Donna Noski, Council Member,  
City of West Richland, WA***

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 399.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Marlene Oliver*  
*National Association of Cancer Patients*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 1700.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Bernie Patterson***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 264.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2559: Jerome Peltier, Mayor, City of West Richland*

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**2559-1**—The restart of FFTF means giving cancer patients a choice, that choice medical isotopes. Yes, the choice can be as simple as life or death. Ask yourself what is a life worth. It is my position that if the restart of FFTF could save just one life, then it is worth it.

My comments this evening at this hearing are directed to the Department of Energy Fast Flux Test Facility Draft Programmatic Environmental Impact Statement release in July. It is essential that the final PEIS contain all of the facts as they relate to the capability of FFTF, which has the greatest capability of producing the quantity, the variety and the quality of medical isotopes required by the medical industry. In addition, FFTF has the capability of producing industrial isotopes, space batteries and can be a world leader in nuclear research.

The final PEIS should designate FFTF as the preferred alternative for the production of medical isotopes because it is the only facility that can accommodate all the demands of the medical isotope program as well as industry, space and research.

**2559-2**—These capabilities are far too important to get lost in the extreme tactics of the anti-nuclear movement as demonstrated in the previous hearings on FFTF. These groups lie, misrepresent facts and present alternatives that are far more expensive and technically inadequate.

Finally, let me say that the capabilities, flexibility, technology, cost benefits and the saving of lives must be the drivers behind the decision to restart FFTF. Politics should not drive or prevent the restart, which in the past has had a tendency to overshadow the merits of the technology. The FFTF is a safe reactor and can produce medical isotopes that can save

thousands of lives. Do not listen to comments of an anti-nuclear faction whose only goal is to stop a lifesaving medical isotope mission in Hanford, create fear, raise money for their cause and deprive cancer patients of their lives.

**2559-3**—I specifically would like the following data included in the PEIS — isotope quantity, quality and availability particularly for research isotopes and isotopes with high specific activity. It is essential that a domestic supply of these isotopes be identified as well as the current production facilities. The PEIS should include DOE's facilities including reactors, cyclotrons and accelerators

### *Response to Commentor No. 2559*

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**2559-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2559-2:** DOE notes the commentor's views. The selection of facilities and site locations for accomplishing expanded civilian nuclear energy research and development and isotope production missions is not a political decision. DOE's Record of Decision for the NI PEIS will be based on a number of factors including environmental impacts, public input, costs, nonproliferation impacts, schedules, technical assurance, and other policy and programmatic objectives.

**2559-3:** DOE notes the commentor's views. For the purposes of analyses in the NI PEIS, a representative set of isotopes was selected on the basis of the recommendations of the Expert Panel, medical market forecasts, reviews of medical literature, and more than 100 types of ongoing clinical trials that use radioisotopes for the treatment of cancer and other diseases. These isotopes are listed in Table 1-1 of Volume 1, along with a brief description of their medical and/or industrial applications. Unlike Table C 1 of Volume 2, which lists representative isotopes that could be produced using FFTF, the isotopes listed in Table 1-1 include both reactor- and accelerator- produced isotopes. The absence of any specific isotope from the Table 1-1 should not be interpreted to mean that it would not be considered for production under the proposed action. Rather, these isotopes are a representative sample of possible isotopes that could be produced, and DOE expects that the actual isotopes and specific amounts produced as a result of the proposed action would vary from year to year in response to the focus of clinical research and the specific market needs occurring at that time. Therefore, the NI PEIS cannot identify how short-lived isotopes that will be produced by DOE in the future will be transported to treatment centers, as requested by the commentor. DOE also does not believe that a cost-benefit analysis of radioisotope therapy alone or in combination with older treatments is warranted and is not, therefore, included in the NI PEIS. While some existing DOE reactors other than those considered in the NI PEIS may possess the potential capability or capacity to support research isotope production, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities.

**2559-4:** DOE notes the commentor's support for Alternative 1, Restart FFTF, and concern regarding medical wastes. Medical wastes are regulated by the U.S. EPA and authorized states. It is not under DOE's purview.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor No. 2559: Jerome Peltier, Mayor, (Cont'd)  
City of West Richland***

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and address which of these isotopes will come from which source. Current committed missions in DOE facilities should be accounted for, and the methods for meeting both mission and isotope demands should be identified. The PEIS should further identify where short-lived isotopes will be produced and how they will be transported to treatment centers. The PEIS should contain a cost/benefit analysis of radioisotope therapy alone or in combination with older treatments such as surgery, chemotherapy and external beam radiation. This study should be based on statistics presented for the various FDA approved cancer radioisotope treatments and clinical studies.

**2559-4**—The final waste minimization plans should include an analysis of all the waste associated with cancer treatment. The plan should address FFTF waste as well as the waste from the medical community. Cancer patients today produce a lot of waste, from both surgery waste and chemotherapy, which are both toxic and infectious. Currently these wastes are being stored in 55-gallon drums in hallways, under stairwells, on loading bays and even in parking lot spaces at many hospitals and treatment centers. These wastes represent an unrecognized hazard that far exceeds the hazard of the waste that will be produced at FFTF.

***Response to Commentor No. 2559***

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## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2583: James Polleri*

**2583-1**—The report also includes some vitally important plans such as a statement in the summary report that DOE proposes to enhance its existing nuclear infrastructure to provide for the three needs of isotope production, production of Pu-238 for space batteries and research and development. In my opinion and in those of many others, the successful meeting of these needs is of vital importance to America's future, including both personal health and our national energy security.

The FFTF offers many advantages compared with the other PEIS alternatives. For example the use of an existing facility rather than a new facility and lesser environmental impacts. In addition, the FFTF would make a positive contribution to nonproliferation by transmuting PU-239 in both existing FFTF and German reactor fuel. In view of these and other considerations, alternative #1, restart FFTF, should be identified as the preferred alternative in the PEIS.

**2583-2**—Some improvements that should be made in the PEIS are as follows: One, a table should be included, preferably in the summary report, that identifies which of the 30 medical isotopes that are covered by the EIS can be made in each facility in sufficient specific activity, purity and quantity for commercial purposes. Without such information, a valid comparison cannot be made between the relative merits of each facility and the environmental impacts.

**2583-3**—Two, a table should be added, preferably in the summary report, that provides a comparison of attributes for the various facilities such as neutron volume, flux level, thermal temperature, et cetera. This will allow the reader to readily evaluate the relative merits of each facility based on facility capability and environmental impact.

**2583-4**—Three, the comparisons between the various facilities with respect to the number of latent cancers that are potentially developed by the public that are given in the summary report figures do not appear to be statistically meaningful. If true, the figures should be deleted or a note added to the figures that addresses the uncertainty.

**2583-5**—Four, transportation [and environmental impacts of replacing fuel and ATR, higher and new research reactor during the 35-year operating period should be addressed in the PEIS]. Without inclusion of these impacts, the PEIS is incomplete and potentially misleading.

### *Response to Commentor No. 2583*

**2583-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2583-2:** DOE notes the commentor's views. For the purposes of analyses in the NI PEIS, a representative set of isotopes was selected on the basis of the recommendations of the Expert Panel, medical market forecasts, reviews of medical literature, and more than 100 types of ongoing clinical trials that use radioisotopes for the treatment of cancer and other diseases. These 37 representative isotopes are listed in Table 1-1 of Volume 1, along with a brief description of their medical and/or industrial applications. Unlike Table C-1 of Volume 2, which lists representative isotopes that could be produced using FFTF, the isotopes listed in Table 1 1 include both reactor- and accelerator- produced isotopes. The absence of any specific isotope from the Table 1-1 should not be interpreted to mean that it would not be considered for production under the proposed action. Rather, these isotopes are a representative sample of possible isotopes that could be produced, and DOE expects that the actual isotopes and specific amounts produced as a result of the proposed action would vary from year to year in response to the focus of clinical research and the specific market needs occurring at that time.

**2583-3:** The summary of environmental impacts (Volume 1, Section 2.7.1 ) has been revised and reformatted in the Final NI PEIS. Section 2.7.3, Comparison of Mission Effectiveness Among Alternatives, has been revised in the Final NI PEIS to identify the medical isotopes that can be produced using accelerator technology (Alternative 3) and reactor technology alternatives (Alternatives 1 and 4). The designs for Alternatives 3 and 4 were developed to a level of detail that was adequate to assess the environmental impacts associated with the construction and operation of the facilities and the technical feasibility of meeting the mission objectives.

**2583-4:** The comparison of expected latent cancer fatalities provided for each of the alternatives provides information that can be used to differentiate between the environmental impacts of a range of reasonable alternatives. The radiological risks are, indeed, small and similar. However, the sizes and similarities of the values for public risk are useful information for the public and the Department's decision makers. While the results shown in the figures are statistically meaningful, the physical significance of estimated values for latent cancer fatalities at low dose rates is currently an issue of scientific debate. Some scientist believe that the linear, no threshold theory is valid. Some scientist believe that there is a threshold below which radiation dose is not harmful. Neither side can present conclusive proof. Calculations of radiological health effects in this NI PEIS are based on the

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2583: James Polleri (Cont'd)**

**2583-6**—Four, [transportation] and environmental impacts of replacing fuel and ATR, higher and new research reactor during the 35-year operating period should be addressed in the PEIS. Without inclusion of these impacts, the PEIS is incomplete and potentially misleading.

**2583-7**—In a very recent report on the Heart of American Website, the title is given of "Tokimara Japan's nuclear disaster could easily happen at Hanford, an uncontrolled nuclear reaction of criticality, especially if the FFTF reactor is restarted." The statement that there is a similar risk to our region due to FFTF restart is incorrect. Concerns were raised in the report regarding processing fuel to go on the FFTF and the processing of irradiated targets with nitric acid. If additional FFTF fuel is needed later, it would not be located at Hanford, but in a commercial facility. If processing of targets will be done at Hanford, criticality safety controls will be imposed and strictly enforced with emphasis on engineer safety features. However, not mentioned in the Heart of America report is that Pu-238 and 237 cannot be critical in any amount when mixed with water or nitric acid. Also, no criticality has ever occurred in the free world, excluding reactor cores in critical facilities, involving fuel that was in solid, non-solution form.

**Response to Commentor No. 2583**

linear, no threshold theory because it is conservative. Numerical values calculated for the range of reasonable alternatives are presented, regardless of the relative size of the impact.

**2583-5:** Periodic replacement of nuclear fuel at the reactors identified in the comment would be part of normal reactor operations. Use of the operating reactors (ATR and HFIR) would result in a change of the mission profile, but no increased useage of fuel. Therefore, transportation impacts are not within the scope of the NI PEIS. For Alternative 4 - Construct New Research Reactor the impacts of providing fuel to the reactor are in the scope of the NI PEIS. The low-enriched uranium fuel for the new research reactor would be made in the United States and transported commercially. The per-shipment risk factors are shown in Table J-5, and the impacts are included in Alternative 4. See sections 4.6 1.2.11, 4.6.2.2.11 and 4.6.3.2.11.

**2583-6:** Periodic replacement of nuclear fuel at the reactors identified by the commentor would be part of reactor operations. For presently operating reactors, the proposed use of ATR and HFIR would result in no incremental impacts to involved workers, to individuals in the general public, or to other environmental resources. This is because these reactors would already be operating to provide other irradiation services (Sections 4.4.1.1.9 and 4.4.7.1.9 of the NI PEIS). For this same reason, there would be no incremental impacts associated with transporting fuel for these reactors. Normal operations of the new research reactor (which includes spent fuel handling), would result in an annual dose to the maximally exposed individual member in the general public of 0.000068 mrem. This dose is well below the EPA's Clean Air Act standard of 10 mrem per year that is cited in DOE Order 5400.5 (see section 4.6.1.2.9). Doses to workers would also be small. Fuel handling accidents are discussed in section 4.6 1.2.10 and Appendix I of the PEIS. Risks to the public are seen to be small, with no latent cancer fatalities expected from 35 years of operations. Transportation of uranium fuel is addressed in Section 4.6.1.2.11; risks to the public and to transport workers during normal transportation or postulated accidents would also be small, with no fatalities expected.

**2583-7:** The commentor correctly concluded that a criticality accident during processing is not expected. Both neptunium-237 and plutonium-238 would be stored in shielded containers in quantities and configurations that preclude criticality. Target preparation and postirradiation processing would be carried out in batches involving quantities well below those at which criticality could occur.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### **Commentor No. 2585: Gerald Pollet Heart of America Northwest**

**2585-1**—And earlier this summer, we were encouraged that some members of this community were brave and courageous enough to say they would engage in a dialogue with opponents of FFTF to try to find common ground. And indeed it is clear to me that takes some courage in this community. Because what we have heard tonight representative of four nights is that many in the community think that the way to change public policy is by character assassination. By calling people liars. By saying they are fanatics. And then when all is said and done and that is over with, they would like us to work with them to continue to secure over a billion dollars a year in clean-up funding every year and help us convince members of Congress how vital our information is about the jeopardy to the Columbia River or the risk of a high level tank leak or the risks of the 300 area. And they would like our support to accelerate the clean-up of the 300 area, something actually my organization has advocated for a decade because of the risks in the 300 area. And to get more money to do that, which will take quite a bit more money than the current target budgets, at a time when the current target budget for 2002 is over \$200 million short of what is required to meet the Hanford clean-up agreement. \$200 million short.

But why should anyone in the world listen to us because we are fanatics, we are lunatics, we lack integrity, we can't do math. But you'd like our support. Unlike less than a decade and a half ago, when my organization first started working on clean-up and we came to this community and we said, let's create a Hanford Clean-up Task Force to build support for funding Hanford clean-up, which was just at \$30 million a year at that time. And a leading elected official summarized how many people may still feel about clean-up when that official was quoted in the paper as saying, "Talking about clean-up is like dragging a dead skunk through town." And he wanted to have no part of it.

Well, why doesn't the EIS consider simply raising the 306 and 325 buildings as part of the accelerated clean-up and using new facilities. Simple. Change the cost picture.

A lot has been said about how FFTF and related operations won't have any impact on clean-up programs and costs. You can't clean up the 300 area to an unrestricted status and meet DOE planning guidelines. You can't meet MOCA, state clean-up law, or CERCLA unless you close these buildings and build new ones if you want to restart FFTF. That ought to be in the EIS.

**2585-2**—Let's talk about those risks in the 300 area, one of our concerns about the current proposal for FFTF. The proposal for FFTF relies on use of the 306 and 325 buildings. There are serious risks here. I quote, "The consequences for a major fire event occurring at the 325 building according to the latest draft 325 safety analysis report are 11 REM ED to the off-site MEI, maximum exposed

### **Response to Commentor No. 2585**

**2585-1:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are a high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this agreement. Additionally, the DOE was tasked by Congress in the Atomic Energy Act of 1954, as amended, to "ensure the availability of isotopes for medical, industrial, and research applications, meeting the nuclear material needs of other federal agencies, and undertaking research and development of activities related to development of nuclear power for civilian use." The purpose of this PEIS is to determine the environmental and other impacts to accomplishing this mission from all reasonable existing and new DOE resources. The FFTF, 306E, and the 325 Facility at the Hanford Site were included in the listing of existing DOE resources that was assessed for this mission. Regarding the accelerated cleanup of the 300-area, the 300 Area Revitalization Plan provides for continued multi-program R&D operations in the 300 Area, including operation of various laboratories, office facilities, and services. It also provides for consolidation (but not complete elimination) of radiological operations, with support for Hanford Site facility transition and environmental restoration efforts. The plan does not require closure of the 325 and 306-E buildings as long as they are needed for active research projects. Operation of these facilities would not violate any existing agreements between DOE and stakeholders or other legal obligations, nor would it affect ongoing or planned environmental restoration and facility transition activities.

**2585-2:** With regard to the analyses in the Building 325 Safety Analysis Report, the fire scenario referred to in the comment represents the maximum credible fire at the facility based on a recent fire hazards analysis by an independent organization. A fire of the severity evaluated in the Safety Analysis Report is categorized as "extremely unlikely" for purposes of establishing the facility safety basis, which implies a frequency between 1 in 1 million and one in ten thousand years. Based on the history of fires involving radiological facilities at Hanford, that estimate is likely on the conservative side. In addition, the radionuclide releases for the fire scenario are based on a hypothetical maximum radionuclide inventory in the facility and conservative estimates of the fraction of material that could be released in the event. The facility does not currently operate with anywhere near that maximum inventory, nor would it in the future. Administrative controls

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor No. 2585: Gerald Pollet (Cont'd)***  
***Heart of America Northwest***

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individual, 91 REM ED to the on-site MEI. Now 91 REM, in fact, would be the public dose under Keith Kline's current vision for Hanford clean-up, which is to accelerate clean-up of the 300 area except for these facilities and invite, in his own words, the public in on a regular basis. Take down the fence, have a bike path and open it up for public use. So the public would be at the doorstep of an operating facility with a potential 91 REM dose. That dose is 670 times at least higher than any dose for fire discussed in this Programmatic Environmental Impact Statement. It is written by the same agency, and yet that type of risk is not disclosed. And it is a devastating risk that I think everyone in this community is concerned about, cleaning up in the 300 area.

The additional oral comments were submitted in written form and are addressed in the responses to Commentor No. 158.

***Response to Commentor No. 2585***

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maintain the total radionuclide inventory in the facility well below the maximum evaluated in the Safety Analysis Report. The current Safety Analysis Report analyzes dose to a maximally exposed individual member of the public on the near river shore, and the onsite collocated worker is within 100 meters of the facility in the worst case downwind direction. If DOE decisions regarding access to the 300 Area change the location of the safety basis public maximally exposed individual, the total allowable radionuclide inventory in the facility would be adjusted to keep the potential dose within DOE guidelines for any credible accident scenario. Processing of medical isotopes at Building 325 for missions described in the NI PEIS would be conducted within administrative controls on radionuclide inventory in effect at the time. Therefore the risk to a member of the public from all activities in the facility, including medical isotope processing, would remain within the approved facility safety analysis wherever that individual might be located. The results of the NI PEIS accident analyses for medical isotope processing are lower than the results for corresponding events in the Safety Analysis Report because the NI PEIS radionuclide inventories are based on realistic production quantities and needs of the medical community, not on the hypothetical maximum radionuclide inventory for all work conducted in the facility. The Safety Analysis Report bounds the cumulative accident risk from all activities at the 325 building, and the medical isotope missions described in the NI PEIS would be expected to contribute a relatively small fraction of that total if the work were conducted there.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2593: Jim Price  
Aid to Legislative Democrats*

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**2593-1**—I'm the Chair of the Aid to Legislative Democrats. I wanted to go on record as stating that our committee has passed a resolution in support of the FFTF restart for medical isotopes. We believe it's the right thing to do, and we believe it's the prudent thing to do, and we urge the Department of Energy to restart the FFTF for medical isotopes.

*Response to Commentor No. 2593*

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**2593-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2594: Marianne Price**  
**County Democratic Organization**

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**2594-1**—I'm a candidate for the State House of Representatives in the Eight District, and I am also the State Committeewoman for the County Democratic Organization. I'd like to go on record by affirming our district's desire that the FFTF be restarted for the purpose of production of medical isotopes that we feel are so vital to human care.

**Response to Commentor No. 2594**

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**2594-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Arundel Pritchett*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 2081.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor:** *Kathryn Roberg*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 429.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2610: Robert Roener*

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**2610-1**—I support the restart of the FFTF. I believe it to be the only alternative identified in the PEIS that could fulfill all the requirements you have set forward.

*Response to Commentor No. 2610*

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**2610-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2576: Bob Schenter**  
***Citizens for Medical Isotopes***

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**2576-1**—I want to address the issue of the ability of FFTF to make research isotopes. As a nuclear physicist, I was a site manager and involved with the production of medical research isotopes from the period of 1985 through 1996, and I was the Hanford site manager on that. During that period, we produced a large number of medical isotopes for research very effectively and very cost effectively. And I would plan to provide the information to challenge the concept and the quotes about that FFTF is not effective in producing research isotopes. It will play a very major role in producing research isotopes.

I have two examples. In 1990, we sent to the Children's Hospital in Boston an isotope of osmium that was produced in the FFTF that was used for blood flow studies for the research devoted to looking at blood flow in premature babies. In addition, there are over 60 medical isotopes produced in various manners that piggyback with other missions and this was done very cost effectively. And I will submit some of the detailed written information from institutions such as the Children's Hospital and National Institute of Health commenting on the quality of these research isotopes.

**Response to Commentor No. 2576**

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**2576-1:** DOE notes the commentor's views that FFTF can adequately and cost effectively support DOE's medical research isotope mission when "piggybacked" with other missions.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor: Charity C. Schweiger*

The oral comments were submitted in written form and are addressed in the responses to Commentor Nos. 383 and 430.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

***Commentor: Pat Schweiger***

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 267.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2570: Peggy Scott*

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**2570-1**—But what about the risks of operating FFTF to provide these treatments for the public? With our current mode of treatment, more than 400,000 people are expected to die from cancer during the next 35 years in Seattle, Portland and Spokane and tri-cities areas alone. During that same time, the PEIS concluded that not a single cancer fatality would occur as a result of operating FFTF, even if there was a severe accident. Operating the FFTF to produce life-saving isotopes is not a health risk to the citizens of the Pacific Northwest, cancer is. So I am asking you what is your perspective? Should we deny the hope of an effective cancer treatment to the 42 million Americans who in the next 35 years will discover often too late that they have cancer? I know what my answer is.

*Response to Commentor No. 2570*

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**2570-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2575: Stan Scott**

**2575-1**—I have a comment that I want to read about the PEIS, but first there is a couple of things I heard tonight I wanted to clarify. The first was an absolutely correct statement by Owen Lowe that we do have accelerator technologies that allow us to make neutrons from spallation. I wanted to also point out that the low energy cyclotron can in no way produce those. The minimum threshold energy for that reaction is 200 million electron volts. The low energy cyclotron in the PEIS does 30 million to 70 million electron volts. It is also a very small machine at only 300 to 500 microamps, and is not at all what we need to produce large quantities of therapeutic isotopes.

**2575-2**—The second thing I wanted to talk about was I picked up some what I would call anti-FFTF propaganda in the back generated by Heart of America Northwest. I won't call it anti-nuclear because we heard earlier that the young lady said they were not an anti-nuclear organization. Now I do have some detailed knowledge in the area of medical isotopes. I have studied them for the last five years. I also was on the DOE's expert panel for forecasting the future demand of isotopes. So when I read through here, I felt a little upset at some of the comments in here. There is just enough truth in here to make things slightly believable. But those with some knowledge know that there are many that are also complete fabrications. One such statement is, "For instance, the Hanford forecast uses a rate of growth of medical isotope usage that would grow from one percent of the public per year using medical isotopes to 99 percent." I have always wondered what kind of curriculum law students have. But Jerry I know one thing now for sure and that is it doesn't have enough math and science.

**2575-3**—But my comments tonight will focus on the third major objective of the programs outlined in the PEIS, which is to enhance the nation's nuclear research and development needs for civilian applications.

Although this application is somewhat hard to define, you recently released a strategic plan from your own office and NERAC's long term nuclear energy research and development plan which has also been just released provides some hard goals and objectives which must be taken into consideration when the ultimate alternative is picked.

It is plain to see that the no-action alternative, alternative 2, the use of existing operation facilities, and alternative 5, permanent shutdown of the FFTF can in no way meet the vision, mission, goals and objectives towards meeting America's nuclear technology future and should not be considered in the final decision making process.

**Response to Commentor No. 2575**

**2575-1:** DOE notes the commentor's views on the restart of FFTF.

**2575-2:** DOE notes the commentor's views and observations.

**2575-3:** The NERAC plan has been considered in the preparation of the NI PEIS (see Chapter 1 of Volume 1) and will be considered in the Record of Decision. The commentor is correct in stating that the No Action Alternative, Alternative 2, Use Only Existing Operational Facilities, and Alternative 5, Permanently Deactivate FFTF, do not meet all the projected nuclear infrastructure needs. However, as noted in Section 1.5, it is possible during the Record of Decision process that a combination of alternatives could be selected such that all missions would be met to some degree.

**2575-4:** The commentor's observations about nuclear technology and the restart of FFTF are noted. Volume 1, Section 2.7.1.2.3 of the Draft NI PEIS presents a comparison of mission effectiveness among alternatives. This section has been revised in the Final NI PEIS (see Section 2.7.1.8, "Comparison of Mission Effectiveness Among Alternatives") to provide the reader a better understanding of the medical isotopes that can be produced using accelerator technology (Alternative 3) and reactor technology alternatives (Alternatives 1 and 4).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2575: Stan Scott (Cont'd)*

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**2575-4**—On the other hand, your vision that the benefits of nuclear technology to our society can and should be expanded and your mission to advance the application of nuclear technology by investing in new or innovative opportunities for its expanded use could not be better served than by a restart of the FFTF. This facility is the premier research reactor in the world. And to allow it to remain dormant or worse yet to shut it down in light of our nation's needs is unconscionable. The PEIS should also provide a summary of the real capabilities of the various options to meet all three of the stated mission objectives. Until such a comparison is done, a valid decision will not be made. Based on my 21 years working in the nuclear technology field, I am confident that the FFTF will stand head and shoulders above any other facility towards meeting America's nuclear technology future.

*Response to Commentor No. 2575*

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*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2580: Dan Simpson**

**2580-1**—I conclude that the restart of operation of the FFTF should be a key element in your programs, the programs covered by this PEIS together with utilization of existing thermal neutron reactor radiation facilities to the extent of their capability and availability. In other words, restart of the FFTF needs to be the most important element but continued utilization of existing facilities and perhaps expanded utilization of existing facilities would probably also be appropriate.

In conclusion, the thorough analyses by DOE have shown that restart of the FFTF and operation as a neutron irradiation facility is in the national interest. Furthermore, a long period of operation of this service can be expected. The FFTF was conceived, designed and built to develop advanced technology for civilian nuclear program needs. It was subject to high standards and exacting criteria. The safety of the design and adequacy of the safety analysis were confirmed by detailed independent review by the Nuclear Regulatory Commission staff and the National Advisory Committee on reactor safeguards. The FFTF remains today a modern facility with a demonstrated record of safe and successful operation. It was designed for irradiation of diverse materials and components in the reactor core, provides inherent flexibility that fits well with the missions of isotope production. Both the facility design and its procedures are consistent with such uses. For example and in particular, there are well developed procedures for safety analysis, review and approval of different types of irradiation target specimens.

**2580-2**—The PEIS states that alternative 1, restart of the FFTF, provides the greatest vision and effectiveness of the alternatives evaluated. Recent news reports on the cost analysis indicate that analysis confirms that the Fast Flux Test Facility is the most effective means for meeting the entire suite of missions proposed by DOE.

**2580-3**—The PEIS indicates no environmental impact bar to any of the alternatives, that is any of them can be done within appropriate regulations, sound practices and standards.

**2580-4**—The report indicates to me from my interpretation of it that the national mission needs would be best met by a combination of the fast neutron reactor and one or more thermal reactors available for irradiation services. FFTF restart is the obvious path for fast reactor capability. ATR is an excellent thermal radiation reactor facility but limited in availability due to prior decommission. It would be logical to utilize the radiation capability of Canadian reactors in cooperation with Canada that has been made in the past. At some point we can anticipate that both the FFTF capability and thermal neutron irradiation capability will be exceeded — additional capability will be needed, at which point the construction of the new research reactor would become logical. A key reason for

**Response to Commentor No. 2580**

**2580-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2580-2:** DOE notes the commentor's opinion.

**2580-3:** DOE notes the commentor's statement that the NI PEIS indicates no bars to any of the alternatives with respect to environmental impacts.

**2580-4:** The commentor's support of FFTF and ATR with the potential for a new research reactor in the future is noted. As stated in PEIS Volume 1, Section 2.6.1, the use of Canadian reactors was considered and dismissed because this does not meet the programmatic issue of enhancing the United States infrastructure to support the missions described in the PEIS. The commentor is correct in stating that some radioisotopes require fast neutrons for their production while others require thermal neutrons.

**2580-5:** DOE notes the commentor's view. DOE considers Alternative 3, Construction of New Accelerators, a reasonable alternative for large scale isotope production and evaluates the environmental impacts associated with the construction and operation of the accelerators and associated support facilities in the NI PEIS.



*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2580: Dan Simpson (Cont'd)**

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providing both fast reactor and thermal reactor irradiation capability is to produce the wide variety and purity of isotopes for which there is a need. Some isotopes are produced most effectively and efficiently in a high energy neutron flux of a fast reactor and others by thermal neutrons. FFTF target assemblies can be configured to accomplish thermal energy neutron irradiations as well as the more direct utilization of the existing Fast Flux capability, which may be the higher value utilization of FFTF.

**2580-5**—It appears from the information provided that the particle accelerators — at least I don't find much support for particle accelerators for the purpose of large scale isotope production.

**Response to Commentor No. 2580**

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## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2602: Laura Smith*

**2602-1**—I find it unacceptable that the environmental impact statement considers only the short term, especially when one of the costs is something as lasting as nuclear wastes. Especially threatening are the low level wastes which are disposed in unlined, unfiltered ditches.

**2602-2**—Please heed the subcommittee for isotopes research and production committee of the Nuclear Energy Research Advisory Committee when they conclude, and I quote, that the FFTF will not be a viable source of research radioisotopes. Anticipated income from sales likely will not meet expectations, thereby curtailing operations and reducing the FFTF's capability to produce research radioisotopes in a timely and cost efficient manner.

### *Response to Commentor No. 2602*

**2602-1:** The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed actions for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders. The Hanford Site's 200 Area's Low-Level Waste Burial Ground are regulated by DOE under the Atomic Energy Act of 1954, as amended, and under DOE Order 435.1, Radioactive Waste Management. The 200 Area's Low-Level Burial Ground also contain the following three active permitted mixed waste trenches whereby mixed low-level waste is both stored and disposed of: (1) Trench 31 is a permitted, lined Subtitle C disposal trench that is currently utilized for greater than 90-day storage of mixed low-level radioactive waste; (2) Trench 34 is permitted, lined Subtitle C disposal trench currently utilized for the disposal of mixed low level radioactive waste that has been treated and is compliant with Land Disposal restrictions; and (3) Trench 94 is a permitted, unlined disposal trench utilized for the disposal of decommissioned naval reactor components. Use of Trench 94 for naval reactor compartments is authorized under a special exemption from the State of Washington Department of Ecology (Ecology). Currently, the Low-Level Burial Ground has a Part A Permit approved by Ecology under the State of Washington Dangerous Waste Regulations, State of Washington Administrative Code (WAC) 173-303, and, as such, is an interim status treatment, storage, and disposal (TSD) unit under the Resource Conservation and Recovery Act (RCRA). The permitted active and future mixed waste units of the Low-Level Burial Ground meet all regulatory requirements of WAC 173-303 and RCRA and will be incorporated into the Hanford Site RCRA Facility Part B Permit and will operate under final status regulations. In early June 2000, a working draft of the Hanford Site RCRA Facility Part B Permit application was submitted to Ecology.

**2602-2:** DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC,

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2602: Laura Smith (Cont'd)*

*Response to Commentor No. 2602*

established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1 2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE has taken the Expert Panel and NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. These reports were made available to the public at the NI PEIS public information centers and on the Internet at [www.nuclear.gov](http://www.nuclear.gov).

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2592: Dea Strand*

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**2592-1**—I believe it would be a tremendous waste if we don't restart FFTF, if only from the standpoint of the isotopes to fight cancer.

*Response to Commentor No. 2592*

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**2592-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2586: Thomas Tenforde*

**2586-1**—I am speaking here tonight as a staunch advocate for the restart of the Fast Flux Test Facility to produce medical isotopes and to conduct other nuclear services and science missions of importance to the United States. The need for FFTF as a major supplier of isotopes for the treatment of cancer, cardiovascular disease and other human health problems is beyond question. At the present time, as others have said, there are no other reactors in the United States with the capabilities of FFTF for producing medical radioisotopes and currently the U.S. must rely on foreign suppliers for many of the isotopes used, both for the diagnosis and treatment of disease. In addition to its remarkable capabilities for producing isotopes for medicine, industry and research, the FFTF has demonstrated its capability for safe and reliable operations over a 10-year period dating from the early 1980's to 1992.

**2586-2**—My recommendation to DOE, however, goes beyond just the restart of FFTF for producing isotopes to treat cancer and other diseases. There are several diagnostic isotopes in short supply such as iodine 123 which is used in imaging to detect tumors of the brain and other soft tissues. These isotopes can only be produced by cyclotrons. My opinion and strong recommendation to DOE is that a hybrid option should be chosen in which FFTF is restarted and in addition for a relatively small incremental cost on the order of 15 percent, the cyclotron with an energy of 50 to 100 MEV and a high beam current should be constructed at an existing DOE site that has existing radiochemical processing capabilities.

This cyclotron would then be used to provide a reliable year-round supply of diagnostic isotopes that are not available from accelerator sources at the present time. Because the programmatic EIS considers both the FFTF and a low energy cyclotron option, only site specific environmental documentation would be required for the cyclotron option in order to implement this full course of action. These additional NEPA studies could be carried out in parallel with the initial stages of work required to start FFTF, thereby avoiding any additional delays in reactivating FFTF.

The combined FFTF and low energy cyclotron option would provide the capability to produce the full set of radioisotopes needed by nuclear medicine physicians for the diagnosis and treatment of cancer and other diseases as well as for medical research. It is in my opinion the optimal approach to take for improving the quality of healthcare of Americans in a cost effective manner that uses the full range of technology offered by modern nuclear medicine.

### *Response to Commentor No. 2586*

**2586-1:** DOE notes the commentor's support for a combination of Alternative 1, Restart FFTF, and Alternative 3, Construct New Accelerator(s).

**2586-2:** See response to comment 2586-1.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2603: Elise Thatcher**

**2603-1**—With regard to medical possibilities from the Fast Flux Test Facility here in eastern Washington, a committee developed by the United States Department of Energy reviewed the Fast Flux Test Facility and determined that the use and start of this facility is not only a viable source of medical isotopes but is not cost effectively. Recently, two facilities in Canada have been started solely for the purpose of developing medical isotopes, which will be a possible source for the United States.

In May of this year, NASA contacted the U.S. Department of Energy and disclosed that new technology, which is to be used in the future, will need approximately

**2603-2**—one-fifth of the plutonium-238 that was previously needed by NASA. This is a product which is to be developed by the Fast Flux Test Facility in the future, if it is started.

**2603-3**—Finally, it is important to address the results of the Fast Flux Test Facility here in the tri-cities area in the state of Washington. Any waste to be produced during the start-up and use of the Fast Flux Test Facility is to be laid in unlined and unregulated dishes in the Hanford area. This leads to a projected amount of 5,000 cubic meters of low level waste.

**2603-4**—After reviewing the greater political, medical, and local levels of the Fast Flux Test Facility and the ramifications which it will cause, I support alternative five.

**Response to Commentor No. 2603**

**2603-1:** DOE has sought independent analysis of trends in the use of medical isotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert bodies, the Expert Panel and the NERAC. In 1998, the Expert Panel, which convened to forecast future demand for medical isotopes, estimated that the expected growth rate of medical isotope use during the next 20 years would range from 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by NERAC, established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. DOE has adopted these growth projections as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at levels consistent with the Expert Panel findings. Section 1 2.1 of Volume 1 was revised to incorporate this information and to clarify DOE's role in fulfilling the U.S. research and commercial isotope production needs. The conclusions presented in the NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000 regarding the suitability of FFTF to produce research isotopes in a timely and cost efficient manner were made in the context of the facility producing research isotopes as its sole mission. It would not be cost effective to restart FFTF for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of FFTF for the production of larger quantities of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints on its operational feasibility, the NI PEIS only evaluates the use of FFTF when coupled with the other stated missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without impacting the existing missions of these facilities. DOE has taken the Expert Panel and NERAC report recommendations under consideration in developing the range of alternatives evaluated in the NI PEIS. These reports were made available to the public at the NI PEIS public information centers and on the Internet at [www.nuclear.gov](http://www.nuclear.gov). The United States currently purchases approximately 90 percent

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2603: Elise Thatcher (Cont'd)*

*Response to Commentor No. 2603*

of its medical isotopes from foreign producers, most notably Canada. However Canada only supplies a limited number of economically attractive commercial isotopes (primarily molybdenum-99), and it does not supply research isotopes or the diverse array of medical and industrial isotopes considered in the NI PEIS. As such, reliance on Canadian sources of isotopes to satisfy projected U.S. isotope needs would not meet DOE's mission requirements. The commentor noted that Canada is constructing two new reactors for the production of medical isotopes. These reactors will replace an aging Canadian reactor that is currently producing molybdenum-99. With the addition of the two new Canadian reactors, the United States is assured that Canada will continue to provide a reliable supply of this vital isotope in the future. DOE's intent is to complement commercial sector capabilities to ensure that a reliable supply of isotopes is available in the U.S. to meet future demand, and to encourage the commercial sector to privatize the production of isotopes that have established applications to a level that would support commercial ventures. Section 1.2.1 of Volume 1 has been revised to clarify DOE's isotope production role and other producers' capabilities to fulfill U.S. isotope needs.

**2603-2:** A May 22, 2000, correspondence from NASA to DOE identified that NASA no longer has a planned requirement for small radioisotope thermoelectric generator (SRTG) power systems. This does not mean that NASA no longer requires DOE to provide the necessary plutonium-238 to support deep space missions. Rather, the suspension of SRTG development efforts was conducted in order to permit reprogramming of funds to support development of a new radioisotope power system based on a Stirling technology generator. This new radioisotope power system, referred to in the subject correspondence, requires 1/3 less plutonium as its fuel source. However, the Stirling technology is developmental and NASA has requested in a September 22, 2000 letter to DOE that the plutonium-238 needed for large RTG may be maintained as a backup. Section 1.2.2 of Volume 1 was revised to further clarify the purpose and need for reestablishing a domestic plutonium-238 production capability to support NASA space exploration missions.

**2603-3:** As identified in Section 4.3.1.1.13 of the NI PEIS, the restart of FFTF would generate about 63 cubic meters of additional radioactive waste (e.g., solid low-level radioactive waste) annually, in addition to nonhazardous wastes. This would account for about 2,205 cubic meters of additional radioactive waste to be generated over the 35-year period of nuclear infrastructure operations and is small in comparison to the waste generated by current Hanford activities. It is DOE's policy that all wastes be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2603: Elise Thatcher (Cont'd)**

**Response to Commentor No. 2603**

state laws and regulations and applicable DOE orders. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The Hanford Site 200 Area's Low-Level Waste Burial Ground is regulated by DOE under the Atomic Energy Act of 1954, as amended, and under DOE Order 435.1, Radioactive Waste Management. The 200 Area's Low-Level Burial Ground also contain the following three active permitted mixed waste trenches whereby mixed low-level waste is both stored and disposed of: (1) Trench 31 is a permitted, lined Subtitle C disposal trench that is currently utilized for greater than 90-day storage of mixed low-level radioactive waste; (2) Trench 34 is permitted, lined Subtitle C disposal trench currently utilized for the disposal of mixed low level radioactive waste that has been treated and is compliant with Land Disposal restrictions; and (3) Trench 94 is a permitted, unlined disposal trench utilized for the disposal of decommissioned naval reactor components. Use of Trench 94 for naval reactor compartments is authorized under a special exemption from the State of Washington Department of Ecology (Ecology). Currently, the Low-Level Burial Ground has a Part A Permit approved by Ecology under the State of Washington Dangerous Waste Regulations, State of Washington Administrative Code (WAC) 173-303, and, as such, is an interim status treatment, storage, and disposal (TSD) unit under the Resource Conservation and Recovery Act (RCRA). The permitted active and future mixed waste units of the Low-Level Burial Ground meet all regulatory requirements of WAC 173-303 and RCRA and will be incorporated into the Hanford Site RCRA Facility Part B Permit and will operate under final status regulations. In early June 2000, a working draft of the Hanford Site RCRA Facility Part B Permit application was submitted to Ecology.

**2603-4:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF.



## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2555: Robert J. Thompson, Mayor,  
City of Richland, WA**

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**2555-1**—The city [Richland] has stated in several letters to the Department of Energy over the past years that we unequivocally support the use of FFTF for production of isotopes for medicine, space missions as well as other research and development projects. In 1996, we formed an advisory committee with over 30 participants from a wide spectrum of interests in our community. They studied the use of FFTF and other Hanford facilities for isotope production and plutonium disposition. The committee concluded that the FFTF, which was designed to operate with MOX fuel has more than a 20-year remaining life and should be used to produce medical isotopes and other products. Operating the facility has added the advantage of disposing of the surplus weapons and material by converting it to reactor fuel and irradiating it to the spent fuel standard, which makes the material unavailable for weapons.

**2555-2**—In the City of Richland, we are trying to do something that is unique in government. We are looking at a return on an investment perhaps for the first time. That is not something the government is particularly known for. But the idea is when you spend your money, you spend it wisely. And you don't waste the money that you have spent. This is a two-fold proposition. One, if you have to create some new accelerators, there is a time for the new EIS's that are going to have to be prepared and the tremendous cost that is going to be generated. Not only do you have that cost, but you also have the downside of not being able to produce medical isotopes. And I have a very difficult time when I go out in the community and I see people and I go and I have people who have been ill in my family with cancer and tell them, well what we have got to do is we have got to wait about another 10 or 15 years while we go through another EIS study because we decided to forget starting FFTF. That just doesn't make sound policy sense from an economic standpoint and from an emotional standpoint, a humanistic standpoint. And I think sometimes we lose sight of that as well.

**2555-3**—And one final comment. I think there is a lot of concern and there is a lot of emotion that comes into these issues, especially when I listen to people who are against the restart of FFTF. And I think their concern was invalid in this respect. I think Doc touched on this point of view. We have got two separate pools of money in regards to where the funding restart would come from FFTF as opposed to a clean-up mission. The City of Richland has probably gone out on a limb in regards to supporting monument status of the Columbia River. I have four children. There are plutonium plumes that head for the river. You think it is not in my interest and in my family's interest to have that clean-up not go on? If in any respect that I and my fellow council members felt that clean-up would not go on based on the restart of FFTF, we wouldn't be here. We would not be supporting the restart. It is that important. But my family's concern is paramount and my role is to protect the health and safety of the citizens of Richland. We are going to do that and we can do both.

**Response to Commentor No. 2555**

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**2555-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF, and opposition to Alternative 3, Construct New Accelerator(s). It should be pointed out that the NI PEIS evaluated the operation of FFTF under Alternative 1 for 35 years.

**2555-2:** See response to comment 2555-1.

**2555-3:** DOE notes the commentor's support for Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are a high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this agreement. The missions described in Section 1.2 of Volume 1 would not impact ongoing Hanford cleanup activities. The U.S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2 of Appendix N, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2573: Amber Waldref  
Heart of America Northwest**

**2573-1**—Just one response to Representative Hastings' comments about weapons grade plutonium. He said — just to make it clear, it is weapons grade plutonium that will be used to produce Pu-238. MOX fuel and highly enriched uranium are both weapons grade and this is a nonproliferation issue which I am going to talk about later. At last October's public scoping hearings, different issues were identified that Ms. Brown spoke about today to be included in the PEIS, and I just want to address some of them because I believe they haven't been adequately addressed in the PEIS. The number one issue is the nonproliferation — separate nuclear infrastructure nonproliferation impacts assessment will be completed, so unfortunately I don't have that before me right now. I am very curious about the document, because according to U.S. nonproliferation policy, at this time it strongly discourages the use of highly enriched uranium fuel in civilian research and test reactors. And in the event that a decision is made to restart FFTF, if low enriched uranium fuel is not technically feasible, then highly enriched uranium fuel will be used, and this is a nonproliferation issue. So that is the first point I found that wasn't adequately addressed.

**2573-2**—Secondly, the transition of FFTF stewardship after it is deactivated. The comment I had was in the cost report, DOE added the cost of the deactivation of FFTF to each alternative except the restart. So in my mind, it was a huge error because it skewed it in favor of restarting FFTF because the cost of shutting it down was not included. And it is unclear to me how this can be left out. Because eventually I hope we intend to deactivate the reactor after the 35 year mission. So that was another error that I found.

[And so just in conclusion, I am not convinced that the PEIS adequately addresses...] The errors in the cost analysis, which I mentioned,...

**2573-3**—And also the restart of FFTF and budget constraints. DOE has made a commitment that implementation of the record of decision will not divert or reprogram budgeted funds designated for Hanford clean-up. And I just wanted to point out that part of the tri-party agreement has been to shut down the FFTF reactor. In 1995, it was supposedly supposed to be shutdown, deactivated and decommissioned and the money saved each year would go to clean-up. And now with the Department of Energy looking at clean-up, which is so important and which is continuing to go on, it is saying that the current budget is not going to meet the deadlines and the timelines for clean-up. So in my mind it makes sense to use the money for clean-up.

**2573-4**—And so just in conclusion, I am not convinced that the PEIS adequately addresses these issues from the previous hearing,

**2573-5**—[And so just in conclusion, I am not convinced that the PEIS adequately addresses these issues from the previous hearing.]

**Response to Commentor No. 2573**

**2573-1:** DOE notes the nonproliferation concern expressed in the comment, and can assure that its proposed action in the PEIS supports U.S. nonproliferation goals. This has been confirmed by the Nuclear Infrastructure Nonproliferation Impact Assessment, published in September 2000. Although this policy analysis is not required under NEPA, DOE considers it to be an essential element in the decision-making process for the DOE nuclear infrastructure, and has included a summary of the assessment in Appendix Q in the Final NI PEIS. It may also be found on the DOE NE web site (<http://www.nuclear.gov>). In the event that a decision is made to restart FFTF, the first six years of operation would use existing onsite mixed oxide fuel. DOE expects that an additional 15-year supply of mixed oxide fuel in Europe, owned by Germany, would be available for FFTF. The Nuclear Infrastructure Nonproliferation Impact Assessment for the NI PEIS alternatives stated that using the two different sources of existing mixed oxide (MOX) fuel for FFTF (existing FFTF fuel and German MOX fuel) is consistent with U.S. nonproliferation policy, and, additionally, represents a safe, low-cost opportunity to reduce civilian plutonium without chemical or bulk processing. This would afford substantial nonproliferation benefits, since as indicated in the comment, the plutonium in the MOX, if extracted by chemical processing would be of weapons grade. DOE's approach to potential use of HEU fuel in the FFTF is also consistent with U.S. nonproliferation policy. The FFTF is an existing research reactor capable of performing its research missions using HEU fuel, if MOX fuel is not available. U.S. nonproliferation policy provides for such a circumstance as part of the effort to reduce and discourage HEU use. During the period of MOX fuel use, in compliance with U.S. nonproliferation policy directives, DOE's Office of Nonproliferation and National Security would undertake a study under the Reduced Enrichment for Research and Test Reactors (RERTR) Program to consider the technical feasibility of using low enriched uranium to fuel the FFTF. Under this nonproliferation protocol, if use of low enriched uranium fuel is found feasible, it will be used; if found infeasible for meeting assigned missions in the FFTF, an already existing research reactor, policy would allow DOE to subsequently procure highly enriched uranium fuel for use in that facility. This approach is consistent with U.S. nonproliferation policy.

**2573-2:** Deactivation of FFTF is not part of implementing Alternative 1, Restart FFTF. Deactivation of FFTF is part of implementing Alternatives 2, 3, 4, and 5 and including the cost of FFTF deactivation in the implementation costs for these alternatives is appropriate. The Cost Report was structured to identify the implementation costs of the various alternatives so the Secretary of Energy would have this information along with other data for consideration.

## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### **Commentor No. 2573: Amber Waldref (Cont'd)** **Heart of America Northwest**

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or that it justifies the need to restart up FFTF for the proposed plutonium-238 or medical isotope production mission.

[And so just in conclusion, I am not convinced that the PEIS adequately addresses these issues from the previous hearing...]

... the failure to include the information from the NERAC report which was released before this PEIS which recommends that FFTF not be considered as a viable source of research radioisotopes — we have heard that tonight — which is the only type of — the research radioisotopes are the only type being considered as far as I know in this study.

**2573-6**—[And so just in conclusion, I am not convinced that the PEIS adequately addresses...] ... the lack of information on nuclear waste disposal management ...

**2573-7**—So this leads me to call for the most prudent course of action which is to not choose FFTF for any of these missions. I propose that we shut it down, alternative 5, and use the money for clean-up as promised.

### **Response to Commentor No. 2573**

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**2573-3:** DOE notes the commentor's opposition to Alternative 1, Restart FFTF, and concerns regarding the existing cleanup mission at Hanford. Although beyond the scope of this NI PEIS, ongoing activities to remediate existing contamination at Hanford are high priority to DOE. The Hanford Site environmental restoration activities are conducted in accordance with the Tri-Party Agreement (i.e., Washington State Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy). This agreement specifies milestones and schedules for restoration of all parts of the Hanford Site. DOE remains committed to upholding this agreement. Hanford Site cleanup is funded through the DOE Environmental Management Program Office. The stated missions considered in this PEIS would be funded by the DOE Office of Nuclear Energy, Science and Technology, which has no funding connection to cleanup and waste management activities. Therefore, the alternatives delineated in the NI PEIS would not have an impact on Hanford cleanup activities. If the decision is made to shutdown the FFTF then cleanup dollars will be needed to deactivate the facility, which will impact the Hanford cleanup budget.

**2573-4:** DOE assumes that the commentor is concerned that the NI PEIS does not adequately address the issues of cost, nuclear nonproliferation, and funding for Hanford cleanup which were raised during the NI PEIS scoping hearings. The costs and nuclear nonproliferation impacts of proposed actions are not required by NEPA and CEQ regulations to be included in a PEIS. DOE prepared a separate Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment to provide additional pertinent information to the Secretary of Energy so that he may make an informed decision with respect to the alternatives presented in the NI PEIS. Such ancillary documents need only be made available to the public prior to any decision being made under CEQ regulations (40 CFR Part 1505.1(e)). Nevertheless, DOE mailed these documents to more than 730 interested parties on August 24 and September 8, 2000, respectively. Both reports were made available immediately upon release on the NE web site (<http://www.nuclear.gov>) and in the public reading rooms. DOE has also provided summaries of the Cost Report and Nuclear Infrastructure Nonproliferation Impact Assessment in Appendixes P and Q, respectively in the Final NI PEIS. Although beyond the scope of this NI PEIS, ongoing Hanford cleanup activities are high priority to DOE. Funding for Hanford cleanup is addressed in DOE's previous response to the commentor (2573-3).

**2573-5:** DOE has sought independent analysis of trends in the use of medical radioisotopes, and of its continuing role in this sector, consistent with its mandates under the Atomic Energy Act. In doing so, it established two expert

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**Commentor No. 2573: Amber Waldref (Cont'd)**  
**Heart of America Northwest**

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committees. In 1998, an Expert Panel convened to forecast future demand for medical isotopes estimated that the expected growth rate of medical isotope use during the next 20 years will range between 7 to 14 percent per year for therapeutic applications, and 7 to 16 percent per year for diagnostic applications. These findings were later reviewed and endorsed by DOE's Nuclear Energy Research Advisory Committee (NERAC), established in 1999 to provide DOE with expert, objective advice regarding the future form of its isotope research and production activities. The growth projections were also adopted by DOE as a planning tool for evaluating the potential capability of the existing nuclear facility infrastructure to meet programmatic requirements. In the period since the initial estimates were made, the actual growth of medical isotope use has tracked at a rate consistent with the Expert Panel findings. For nearly 50 years, DOE has actively promoted the use of isotopes to improve the health and well-being of U.S. citizens. DOE's use of its unique technologies and capabilities to develop isotopes for civilian purposes has enabled the widespread application of medical isotopes seen today. While its market share is a small fraction of total world radioisotope production, DOE remains the key provider for a large number of isotopes that are used in relatively small quantities by individual researchers at universities and hospitals. Because their application is initially experimental, these isotopes are not generally purchased in large enough quantities to make their production financially attractive to private industry. DOE's intent is to compliment commercial sector capabilities to ensure that a reliable supply of isotopes is available in the U.S. to meet future demand, and to encourage the commercial sector to privatize the production of isotopes that have established applications to a level that would support commercial ventures. The conclusions presented in the "NERAC Subcommittee for Isotope Research and Production Planning Final Report, April 2000" regarding the suitability of the Fast Flux Test Facility (FFTF) to produce research isotopes in a timely and cost-efficient manner were made in the context of the facility producing research isotopes as its sole mission. DOE agrees that the FFTF's large size and configuration are not particularly well suited for the singular purpose of producing small quantities of various research isotopes. However, sustained operation of the FFTF for the production of both research and commercial isotopes would be viable if operated in concert with producing plutonium-238 and conducting nuclear energy research and development for civilian applications. As the NERAC report states: "In limited instances, the DOE possesses unique resources, e.g., the high flux of fast neutrons and large irradiation volume in FFTF, that could be utilized for the production of some radioisotopes, but is best suited for commercial interests who might consider its use for isotope production." In recognition of these constraints

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on its operational feasibility, the NI PEIS only evaluates use of the FFTF when coupled with the other proposed missions. While some existing reactors may possess the potential capability or capacity to support research isotope production, as suggested in the NERAC report, it is unlikely that reliable, increased production of these isotopes to support projected needs could be accomplished without disturbing the existing missions of these facilities. Through a Memorandum of Understanding with NASA, DOE provides radioisotope power systems, and the plutonium-238 that fuels them, for space missions that require or would be enhanced by their use. In addition, under the National Space Policy issued by the Office of Science and Technology Policy in September 1996, and consistent with DOE's charter under the Atomic Energy Act, DOE is responsible for maintaining the capability to provide the plutonium-238 needed to support these missions. There are approximately 9 kilograms (19.8 pounds) of plutonium-238 in the U.S. inventory available to support future NASA space missions; no viable alternative to using plutonium-238 to support these missions currently exists. Based on NASA guidance to DOE on the potential use of radioisotope power systems for upcoming space missions, it is anticipated that the existing plutonium-238 inventory will be exhausted by approximately 2005. Without an assured domestic supply of plutonium-238, DOE's ability to support future NASA space exploration missions may be lost.

**2573-6:** DOE notes the commentor's concern regarding waste generation and management. The NI PEIS addressed the environmental impacts due to the treatment, storage, and disposal of the waste generated by the proposed action for all alternatives and alternative options. Waste minimization programs at each of the proposed sites are also addressed. These programs will be implemented for the alternative selected in the Record of Decision. The waste generated from any of the proposed alternatives in the NI PEIS will be managed (i.e., treated, stored and disposed) in a safe and environmentally protective manner and in compliance with all applicable Federal and state laws and regulations and applicable DOE orders.

**2573-7:** DOE notes the commentor's support for Alternative 5, Permanently Deactivate FFTF, and opposition to Alternative 1, Restart FFTF. The U. S. Congress funds the Hanford cleanup through the Office of the Assistant Secretary for Environmental Management (EM), and the FFTF through the Office of Nuclear Energy, Science and Technology (NE). The nuclear infrastructure missions described in Section 1.2 of Volume 1 would also be funded by NE, which has no funding connection to Hanford cleanup activities. As stated in Section N.3.2, implementation of the nuclear infrastructure alternatives would not divert or reprogram budgeted funds designated for Hanford cleanup, regardless of the alternative(s) selected.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2608: Dave Watris**

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**2608-1**—I say let's get on with the alternative one. Use the FFTF whether or not we use FMEF, but I encourage highly the use of FMEF as a support facility for FFTF.

**Response to Commentor No. 2608**

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**2608-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF, especially Options 3 and 6, which use FMEF as a support facility for FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

*Commentor No. 2604: Avi Weiner*

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**2604-1**—I support the restart of FFTF for radioisotopes.

*Response to Commentor No. 2604*

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**2604-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

*Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

**Commentor No. 2611: Gerald Woodcock  
American Nuclear Society**

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**2611-1**—FFTF needs to be restarted for several reasons, the principal one of which is that people right now today are dying due to the lack of radionuclides and the radioisotopes necessary for their treatment for not only cancer, but for a variety of brain studies, bone studies, and other medical procedures.

**2611-2**—The EIS needs to consider the cost to, not only American society, but to civilization around the world if FFTF does not operate and if its products are not made available.

**Response to Commentor No. 2611**

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**2611-1:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

**2611-2:** The estimated costs of the range of reasonable alternatives are presented in the Cost Report, summarized in Appendix P of the Final NI PEIS. However, the Cost Report is not a cost-benefit analysis. While it is reasonable to believe that the benefits of medical isotopes are substantial, the purpose of this NI PEIS is to describe the nuclear infrastructure missions (Section 1.2 of Volume 1), a range of reasonable alternatives for satisfying the mission requirements (Section 2.5 of Volume 1), and the environmental impacts that would result from implementation of the alternatives. According to 40 CFR Section 1502.23, if a cost-benefit analysis exists, it must be reported and summarized in the NI PEIS.



## *Comments from the Richland, Washington, Public Hearing (August 31, 2000)*

### *Commentor No. 2587: Richard O. Zimmerman*

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**2587-1**—I attended last night's hearing in Seattle and the comments regarding the hidden code words really intrigued me. That was spoken by the wonderful tie-dyed gentleman that typically always attends and is featured for sending jam to famous people. Anyway, it piqued my curiosity. And with the aid of the CD-ROM, I was able to analyze when I got home from Seattle today a code word for myself buried within the PEIS. I counted this particular word 386 times in the draft PEIS. I went through the entire document. Not just the summary, as it appears maybe some people did for comments today. Though largely combined with other words, the word stands as a strong reminder of the responsibility of the DOE and associated contractors no matter what EIS alternative is chosen. Let me now state what the code word is in the forms it is provided in the PEIS. Safety, public safety, environmental safety, safety of workers, safety shipments, nuclear safety, plant safety, criticality safety, system safety, operational safety, safety features, reactor safety, safety performance, safety design, safety considerations, safety factors, health and safety, safety structures, safety impacts, safety rods, safety and reliability, safety analysis, safety and security, safety technologies, safety significance, federal safety objectives, safety basis, safety impact, and finally safety laws. This code word is not hidden from view. It is one that I truly believe every FFTF employee holds dear to their heart

**2587-2**—...and I come in support of the restart of FFTF.

The additional oral comment was submitted in written form and is addressed in the response to Commentor No. 396.

### *Response to Commentor No. 2587*

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**2587-1:** DOE notes the commentor's view on the priority of safety to FFTF employees.

**2587-2:** DOE notes the commentor's support for Alternative 1, Restart FFTF.

***Comments from the Arlington, Virginia, Public Hearing (September 6, 2000)***

***Commentor: Ernest S. Chaput  
Economic Development Partnership***

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 992.

*Comments from the Arlington, Virginia, Public Hearing (September 6, 2000)*

***Commentor: Rick Edwards  
Framatome Cogema Fuels***

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The oral comments were submitted in written form and are addressed in the responses to Commentor No. 993.

*Comments from the Arlington, Virginia, Public Hearing (September 6, 2000)*

*Commentor: Marc Garland*

The oral comments were submitted in written form and are addressed in the responses to Commentor No. 991.